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The authors of the papers in this issue have received considerable assistance from their colleagues on the staff of the Fund. This general statement of indebtedness may be accepted in place of a detailed list of acknowledgments.

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Wage-Price Links in a Prolonged Inflation

E. M. Bernstein *

THE LARGE AND PROLONGED INFLATION which has been experienced in many countries has led to the introduction of various techniques designed to protect the incomes of some sectors of the economy from the adverse effects of inflation. Thus, in many countries wages have been linked to prices, so that a rise in the cost of living necessitates an offsetting rise in wages—at least, if the rise in the cost of living is more than some critical figure.[1] A fixed tie between wages and prices must have significant effects in any economy. For a free economy, in which economic adjustments are induced by changes in prices and wages, the imposition of the degree of rigidity implied by this association is of far-reaching importance. It can be justified, if at all, only by the need to deal with a critical situation, such as that presented by a large and prolonged inflation.

Although the basic causes of inflation vary widely in different countries and at different times, the process of inflation always shows strikingly similar characteristics. Essentially, it is caused by the excessive expectations of government, business, or labor in the use of the national product and is associated with the excessive creation of credit. If the causes of inflation are not eliminated, the mere linking of wages to prices will not of itself bring the inflation to a halt. On the other hand, if the causes of inflation are eliminated, the linking of wages to prices need not prevent the restoration of stability, provided the wage base which is thus linked is not too high in relation to the productivity of the economy. As a practical matter, in a number of countries the use of wage-price links is a consequence of the fear of labor that real wages will be adversely affected by inflation.

It cannot be emphasized too strongly that inflation is a monetary phenomenon. While the level of prices will rise when there is increased demand, even if the money supply is restricted, the rise must in that

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[1] A survey of the use of wage-price links in various countries is given in Appendix II.

case be limited, and it must in a short time come to an end. A large and prolonged inflation is possible only if the monetary authorities permit an excessive and continuous expansion of credit. Whatever the initiating factors may be, they can act on the price level only if they are made effective by the provision of additional credit, although they may be intensified by an accompanying increase in the velocity of money. For this reason, any measures taken to halt inflation must include the restriction of credit. Devices such as the linking of wages to prices are of significance only as part of the environment for making monetary policy. This is the proper framework for any discussion of the economic aspects of wage-price links in a large and prolonged inflation.

Excessive Demand and Rising Prices

In an economy which is functioning properly, the distribution and use of the gross national product should result in an aggregate demand for goods and services that tends to equal the available supply of goods and services at approximately stable prices. At times, however, the government, business, or labor may attempt to secure more goods and services than would ordinarily be available to them from the distribution of current output. In a relatively fully employed economy, such an attempt must result in a rise in prices. The rise in prices would, however, be quite limited, if expectations of increased investment and consumption, private or public, were not supported by the creation of credit by the monetary system.

Assume, for example, that the government wants to use more resources for public purposes than it can acquire through tax revenues, loans from the public, and part of the normal growth in credit money.[2] If the government is insistent on securing additional resources, it will be able to get them by borrowing from the central bank and commercial banks, or by issuing its own currency. Similarly, if business wants to invest more than it can acquire through retained business profits, new securities purchased by the public, and part of the normal growth in credit money, it will be able to do so if additional funds are supplied by the banking system. The continued creation of credit on an excessive scale will have far-reaching economic effects—including a rise in prices.

[2] The normal growth in credit money is equivalent to the increase in real balances of currency and deposits which the public wishes to hold, at stable prices, after allowing for the increase in money resulting from additions to monetary reserves. Bank loans out of savings deposits are treated as loans by the public.

The effect on prices of a given increase in credit, say, to finance additional investment, will not be the same for all countries, nor will it be the same in any given country at different times. If there is a substantial pool of unemployed resources, as in a period of cyclical recession, the increase in demand will manifest itself to a large extent in an increase in output and to a small extent in a rise in prices. The typical experience in the United States is that over the whole period of a cyclical expansion the increase in industrial production is of the order of two to three times the rise in wholesale prices. Of course, in the latter part of a cyclical expansion, the increase in production tends to be much smaller relative to the rise in prices. In fact, the expansion takes on the characteristics of inflation, a functionless rise in prices. In a large and prolonged inflation, there is not likely to be any substantial pool of unused resources, so that a continued increase in demand will soon result in excessive aggregate demand and will manifest itself either in a rise in prices or in a balance of payments deficit.

In a country in which foreign trade is large relative to the national product, a substantial proportion of the excessive demand will be directed toward import and export goods. The remainder will be spent on domestic goods and will induce a rise in their prices. As prices rise, however, there will be a growing tendency to substitute import and export goods for domestic goods. If the amount of excessive demand (in real terms) does not become progressively larger, a stage will be reached where all of the excess in aggregate demand will be directed toward import goods, supplemented by some absorption of export goods. At such a stage, the entire effect of the excessive demand will be manifested as a deficit in the balance of payments; and although home prices have risen, they may rise no more.[3]

The extent to which excessive demand can be absorbed by an increase in imports and a decrease in exports, rather than by a rise in prices, depends on the willingness and the ability of the monetary authorities to finance a balance of payments deficit. In a large and prolonged inflation, it is impossible for the balance of payments to absorb all of the excessive demand. Sooner or later, in order to protect the monetary reserves, the monetary authorities must restrict the flow of imports into an inflated economy. At such a stage, the excessive demand can be manifested only by a rise in home prices—including the prices of the restricted import goods. It is this case that is of special

[3] In a country with a fluctuating exchange rate, where international payments are kept in continuous balance through exchange rate movements, the effect of the excessive demand will be manifested in a rise in prices and a depreciation of the exchange rate.

interest for analyzing the price effects of excessive demand resulting from a large expansion of bank credit for business or the government.

Suppose that inflation is initiated by the demand of business for additional resources for investment. Suppose further that the banking system supplies credit to finance additional investment. Prices will rise and real income will be shifted from those with a higher propensity to consume to those with a lower propensity to consume. The rise in prices will also limit the increase in investment that business expected to undertake. The rise in prices must be sufficient to induce a net increase in savings equal to the actual increase in investment. For this reason, the price rise will be smaller, the greater the rigidity of money incomes—i.e., the greater the ease with which real income can be shifted to profits from other sectors of the economy.

If wages do not respond to higher prices, the rise in prices will be relatively small—not much more than in proportion to the excess aggregate demand. In fact, however, labor has become very sensitive to changes in the cost of living, and even a moderate rise in prices now leads to expectations of offsetting increases in wages. Nevertheless, there is always some sector that remains, at least for a time, unresponsive to the loss of real income involved in rising prices. Pensioners, bondholders, and other recipients of fixed incomes usually cannot or do not secure an adjustment to offset fully the rise in prices. The larger the group whose money incomes are unresponsive, inadequately responsive, or delayed in their response to the rise in prices, the less the price effects of any given excess demand will be.

When the excess demand is large and continues for an extended time, its price effects become relatively greater. The unresponsive sector of the economy is gradually narrowed because the real incomes of the fixed income group have been squeezed to a minimum and new savings no longer go into fixed-income assets. People with wages and salaries which are fixed by custom may accept a small and once-for-all reduction in their real incomes; they will not, however, concur in a more or less permanent fall in their standard of living. As inflation continues, labor expects prompt action in adjusting wages to the rise in prices, and it is no longer possible to transfer a significant amount of real income from an inflation-penalized to an inflation-favored sector. If the excess demand is allowed to continue, inflation will degenerate into a hyperinflation in which prices and wages rise rapidly in an attempt to force additional savings out of an economy determined to protect its consumption.

The Price-Wage Spiral

Even when excess aggregate demand arises from an increase in investment (or a budget deficit), labor occupies a key role in the inflation process. As prices rise, real wages fall. If labor is aware of this reduction in real wages, it may insist on an equivalent rise in money wages. Business will be in a position to meet the wage demands because prices and profits are higher. But the rise in wages will necessitate some reduction in investment below the excessive level to which it is being pressed, unless business can meet the claims for higher wages through an expansion of bank credit. If the banking system is able and willing to provide additional funds to finance the excessive investment, there will be an unresolved struggle between labor and business over the distribution of the national output between consumption and investment. Each rise in prices will be followed by a rise in wages, and each rise in wages will be followed by a new rise in prices.

After a time, the rise in prices is certain to be accelerated. Labor becomes increasingly alert to protect its interests, and the period between successive wage adjustments is gradually shortened. In order to carry out the additional investment, in the interval of the wage lag, business will require a much larger expansion of credit. The price effects of the excessive investment will become relatively larger. In time, wage demands begin to take account of the loss in real income resulting from the lag between the rise in prices and the adjustment of wages. Under such conditions, the demand for wage increases will begin to exceed the amount of the price rise. The economy will be confronted with massive wage adjustments of 20, 30, or 40 per cent at a time, applicable to almost the entire labor force.

Even if a rise in wages is economically justified and is financed by a shift of money income from profits to wages, it can be undertaken without inducing a rise in consumer prices only if the supply of consumer goods is increased to the same extent as the increase in consumer expenditure. This may involve no great difficulty with a moderate wage increase—say, not more than 5 per cent in the course of a year. If the rise in wages is accompanied by an equivalent reduction of the expenditure of other sectors, and if allowance is made for additional savings by the wage earners, it will be possible to meet the increased demand by a diversion of consumption goods from nonwage earners to wage earners, by drawing down inventories, and by changes in the pattern of imports. In the longer run, apart from the effects of productivity on supply, the restoration of real wages to an appropriate

level will require some shift of productive resources to consumer goods industries. In contrast to this adjustment that an economy can make to a moderate wage increase, there is no way by which the supply of goods to be consumed by wage earners can be increased rapidly to match the increased consumption expenditure that accompanies a massive increase in wages.

When wages and prices both rise rapidly, there is a statistical illusion that tends to exaggerate the real change in the standard of living of workers. In fact, during a large and prolonged inflation, short-period changes in the real income of labor cannot be measured through a comparison of price and wage movements. This is especially true in countries in which the custom of granting massive wage increases prevails. For example, suppose that a 35 per cent increase in wage rates is put into effect by decree. It may be assumed that wage payments rise promptly thereafter. Consumer prices, however, will not rise correspondingly at once. Instead, they will rise gradually over a period of 12 months or even longer. Obviously, the actual consumption of the wage earners could not rise by 35 per cent immediately, nor is it reasonable to believe that consumption later will decline by 25 per cent when there has been a further rise in consumer prices.[4]

Apparently, during a period of rising prices the consumption of wage earners is maintained by drawing down cash balances, by running into debt, and by using durable goods purchased during a previous period of relatively high wages. After a massive wage increase, the higher wages are used to restore cash balances, to repay debt, and to buy durable consumer goods to be used for a considerable period in the future. The actual level of consumption varies much less than the level of wages relative to prices. The massive wage increases are probably part of a pattern of wage payments that make aggregate wages over a period of time reasonably well suited to the economic value of the work. This is not a satisfactory system of wage payments from the point of view either of the workers or of the employers. While it is a device that enables them to make a tolerable adjustment to the disruptions imposed by a chronic inflation, reliance on massive wage increases to offset the effects of inflation on real wages adds to the difficulty of restoring monetary stability.

No doubt, if wage earners would consent to their real wages being

[4] Between March 1956 and September 1956, monthly earnings of workers in Rio de Janeiro are reported to have risen by 35 per cent. In the same six-month period, the cost of living is reported to have risen 10 per cent. The change in real wages computed on the basis of these data is *prima facie* improbable. Such a computed change could certainly not have been matched by a corresponding change in the standard of living of wage earners.

reduced during a period of inflation, the rise in prices resulting from excessive demand would be more moderate. As a practical matter, however, it is too much to expect wage earners to bear the whole cost of an investment or budgetary inflation. If the monetary authorities do not succeed in halting the inflation, the workers will, sooner or later, insist on wage increases to offset the rise in prices. Nor should it be assumed that the tendency for wage increases to follow the rise in prices is entirely the result of a forceful trade union movement determined to protect the interests of the workers. Generally speaking, during an inflation the demand for labor exceeds the supply at going rates of wages. The inflated profits enable producers to bid up wage rates, and those most determined to expand will take the lead in offering higher wages.

Wage-Induced Inflation

An inflation may have its origin in excessive wage expectations rather than in excessive expenditure by the government or excessive investment by business. A strong trade union movement may demand a higher level of wages than can be paid by business if the current level of employment is to be maintained. Employers may feel compelled to meet the wage demands, particularly if the government indicates that social difficulties might arise from strikes and layoffs. To maintain the same level of production and employment at higher money costs, business then needs additional working capital. If the banks are willing to expand credit, and the monetary authorities provide the means to enable them to do so, employers may raise wages, mark up their prices, and maintain the prevailing level of employment. The lag in consumer prices will, for the time being, result in higher real wages; but as consumer prices rise and resume their normal relation to wholesale prices, the expectations of labor for higher real wages will be defeated. If workers are insistent on higher real wages, the repeated attempt to secure wages in excess of the economic value of their work will inevitably lead to a spiral of rising wages and rising prices.

In a world that gives increasing consideration to the objective of full employment, the inflation that arises from excessive expectations of labor concerning real wages is the most difficult to deal with. The unemployment that would result from resisting an uneconomic level of wages is an obvious and measurable loss to the economy. On the other hand, the rise in prices that accompanies an uneconomic level of wages can easily be dismissed as part of the cost of maintaining industrial peace. Unfortunately, the price effects of an uneconomic level of wages

are likely to stimulate labor unrest and to become the justification for new wage demands. An uneconomic level of wages thus results not only in higher prices but in a tendency toward continuously rising prices. As in all other cases of inflation, the price-wage spiral depends upon the expansion of bank credit to maintain full employment at higher costs. If the monetary authorities were to restrain the expansion of credit, an excessive rise in wages would lead to some unemployment; and unemployment would act as a deterrent to renewed demands for higher wages to offset the rise in prices. Unless an uneconomic wage level is resisted, there can be no escape from continuous inflation.

There is a great temptation for the monetary authorities to impute to the pressure for higher wages much of the blame for an inflation that has its origin in excessive investment and government expenditure. Wage and employment conditions have acquired political significance in all countries; and in some countries, unfortunately, governments tend to take the view that monetary policy must not impede full employment or rapid development even if it results in inflation. When there is pressure for wages to rise more rapidly than productivity, such wage behavior is to a large extent dependent on an environment of excessive public and private investment financed by bank credit. As a matter of fact, the wage-price spiral is itself conducive to excessive investment by creating expectations of rising prices and costs. Nothing could be more disastrous for monetary stability than wide acceptance of the view that the monetary authorities can do nothing about inflation on the ground that it is caused by pressure for higher wages.

In the confusion and disorder that accompany a large and prolonged inflation, it may be difficult to determine to what extent the price-wage spiral is specifically caused by excessive government expenditure, excessive investment, or excessive expectations of labor concerning real wages. Even though the inflation may have been initiated by huge budget deficits, or by very large investment, it may in the course of time have been converted into a wage inflation. After it has resulted in the expropriation of the fixed income group, a wage-price spiral may have little further effect on the distribution of real income, despite the disorder that it causes. In a large and prolonged inflation, the rise in prices and wages, and the accompanying expansion of the money supply, are part of a race to stay in the same place. Even with a very large rise in prices, the diversion of resources from consumption to investment, or from private to public use, soon becomes quite small.

In a large and prolonged inflation, the concern of labor, after a time, is not so much to increase real wages further as it is to protect the existing level of real wages from erosion through inflation. Although the inflation may have been caused initially by an uneconomic level of

wages, the continued rise in prices will affect different wage groups quite unevenly. That is one reason why labor will generally support the linking of wages and prices in a large and prolonged inflation. Business may also support a wage-price link under such conditions in order to avoid the extreme and haphazard wage demands with which it may otherwise be confronted. It may be regrettable that the degree of flexibility in the economy is reduced by the linking of wages and prices. The only hope of restoring greater flexibility is to terminate the inflation. In an uninflated economy, it is doubtful whether labor would favor a formal linking of wages and prices, particularly if this would hamper wage increases on the basis of productivity.

Linking Wages and Prices

There is a good deal of evidence, as shown in Appendix II, that in all countries any persistent rise in the cost of living will induce demands for an offsetting rise in wages. Even in a country like the United States, in which the supply of and demand for labor in particular industries remains the primary factor affecting wage rates, the process of collective bargaining must take account of the behavior of consumer prices. In an article on wages and employment, the *Federal Reserve Bulletin* states:

> The sustained rise in consumer prices since early 1956 has been an additional important factor in wage determination. The number of labor-management contracts containing cost-of-living escalator clauses has increased sharply. Relatively large wage increases negotiated in recent months in the rubber, petroleum, construction, and other major industries were also influenced by higher living costs. Moreover, in activities largely outside the sphere of direct union bargaining, wages have advanced to new highs under the pressure of rising living costs as well as expanding demand for labor. Although in some industries wages have increased more sharply than prices since early 1956, the rise in average earnings for the economy as a whole, as well as for production workers in manufacturing, has been largely matched by the increase in consumer prices.[5]

When the rise in prices becomes accelerated, an informal system of adjusting wages to prices inevitably arises. This is an indication of the loss of confidence in the functioning of the monetary system. This loss of confidence, in turn, adds to the difficulty of restoring economic stability. Under such conditions, attempts may be made to impose a link between wages and prices, either through legislation or through collective bargaining. There is no reason for believing that the mere adop-

[5] "Labor Market Developments," *Federal Reserve Bulletin* (Washington), September 1957, p. 1006.

tion of such a link will slow down the wage-price spiral, much less bring it to a halt. Nor can the wage-price link be regarded as an automatic device for escaping the evils of inflation. Rather, it is an indication that the monetary system has failed to perform its function of regulating the production, distribution, and use of the national product.

The primary purpose of linking wages to prices is to give workers confidence that their real income will not be seriously reduced through continued inflation. With such assurance, it may be possible to avoid demands for an uneconomic level of wages based on a wide variety of claims. These demands may arise out of expectations for a rise in wages greater than the growth in the productivity of the economy would justify. They may arise from the assumption that the extraordinary level of profits in the inflation-favored industries provides a basis for determining what the general level of wages should be. The linking of wages to prices may provide a check on competition among trade unions to see which can secure the highest wage increase under the favorable bargaining conditions created by inflation. Once wage rates behave in an orderly way, it may be possible to take other measures, first to slow down and then to terminate the rise in prices.

There is another way in which the linking of wages to prices may contribute to the success of a comprehensive stabilization program. Partly because of its uneven incidence and partly because of attempts by the government to prevent a rise in prices in certain sensitive fields of consumer expenditure, inflation is likely to produce distortions. In various sectors of the economy, price controls may have been imposed "to hold down the cost of living." An overvalued exchange rate may be supported by severe controls on payments for fear of the effect of devaluation on the cost of essential import goods. Ordinarily, labor is likely to object to the adjustment of such distortions through a rise in some prices, on the grounds that it is "inflationary." With assurance that real wages will not be seriously affected by such adjustments, labor may not oppose measures taken to restore proper price relationships. Because aggregate real income is not reduced by eliminating such distortions, it may be possible to make the price adjustments and maintain the level of real wages without setting off a wage-price spiral.

If excessive demand is permitted to persist, however, prices will inevitably continue to rise. Whether they will rise more or less rapidly with than without a wage-price link depends upon the conditions that previously prevailed for adjusting wages. In an economy in which the adjustment of wages to higher consumer prices lagged and was incomplete, the introduction of a wage-price link could result in a tendency for prices to rise more rapidly as a consequence of any given excess in aggregate demand. On the other hand, in any economy in which wages

were periodically overtaking prices through massive wage increases, and thus were establishing an uneconomic level toward which wage demands tended to gravitate, the introduction of a wage-price link could result in a tendency for prices to rise less rapidly as a consequence of any given excess in aggregate demand.

It is generally true that, wherever the linking of wages to prices has been introduced, this action has followed a period of large and prolonged inflation. Under such circumstances, some formal linking of wage rates with the cost of living may have become unavoidable. Nevertheless, it is important to recognize that such measures tend to perpetuate the distorted wage relationships of the past. Furthermore, they may limit the flexibility of the economy in meeting the problems of the future. If the making of economic policy is not to be unduly hampered by linking wages to prices, it is important to avoid protecting an uneconomic wage base that may prevent the government from meeting the problems with which the country is confronted. Furthermore, the government must retain sufficient flexibility in adjusting wages to prices to enable it to deal with any unexpected economic difficulties.

Some Dangers of Linking Wages to Prices

The principal danger in linking wages to prices is that the link will be based on an uneconomic level of real wages. Under such conditions, the economy would be confronted with the danger of a renewal of the wage-price spiral. If the monetary authorities were to take forceful action to restrain credit, in order to prevent a continued rise in prices, some unemployment would undoubtedly appear. If the basic wage to which prices are linked is not too far above the economic value of the work, the normal increase in productivity (if not accompanied by a corresponding rise in wages) may in time restore a proper wage level. That is the best way to restore price stability after wages have been linked to prices at an uneconomic wage level.

The process of stabilization involves adjusting relative prices, and not merely maintaining stability of the average price level. Unless wages in different industries are properly adjusted, some of the distortions generated by inflation will tend to be perpetuated. For example, wage differentials tend to be reduced in a period of inflation. If these differentials are frozen by the application of a fixed wage-price link, the economy may become unable to adjust the supply of labor to the demand for particular skills. Here again, the best hope of restoring an

appropriate wage structure is through gradual adjustment of relative wages as productivity increases.

Another danger that may arise from the linking of wages to prices is the possibility that wage earners, who receive the greater part of the national income, may be exempted from bearing any of the hardships imposed by economic fluctuations at home or abroad. The burden of absorbing the impact of adverse conditions is thus thrown on other sectors of the economy. This may be inequitable and, in any case, it may not always be feasible. If a serious deterioration in the economic situation should occur, even though of a temporary nature, the linking of wages to prices may induce a resumption of the wage-price spiral. This can be avoided only if labor will assume its share of the burden of a reduction in the national income instead of relying on the wage-price link as a shelter from adversity in periods of economic stress.

The problem can be put more clearly in concrete terms. Suppose that a country which supplies a considerable part of its own consumption of agricultural products were to have a crop failure. Agricultural prices would rise. The real income of the country would be reduced by the amount by which agricultural production fell short of its previous level. Consumption and investment would have to be reduced, unless foreign exchange reserves were used to maintain them at a level which exceeded current output plus any net inflow of capital from abroad. A rigid wage-price link would in this situation protect the real wages of workers; however, this would not only add to the burden placed upon other sectors, but it might result in an uneconomic level of wages.

A similar situation would occur if the prices of import goods were to rise more than the prices of export goods. The prices of imported foodstuffs and raw materials may rise for any of several reasons which have their origin in world markets. An adverse movement in the terms of trade would reduce the real income of the country. If the rise in prices of import goods were relatively large and imports constituted a considerable proportion of total consumption and investment, the decline in real income could be significant. Nevertheless, if a rigid link between wages and prices were maintained, workers would not share in the burden being borne by the economy as a whole. An increase in wages to offset a rise in the prices of import goods, the demand for the country's exports remaining unchanged, would result in an uneconomic level of wages and add further to the economic difficulties of the country.

The relation of taxes to the wage-price link is of special importance. Additional resources required by the government can be acquired—apart from foreign credits—only by reducing private consumption and

investment. If inflation is to be avoided, this must be done largely through taxation. The taxes that may be levied for this purpose depend upon economic, social, and administrative considerations. To the extent that there is an increase in the personal income tax, the increased taxation will ordinarily have little effect on prices, although it will reduce the disposable income of people in all fields of economic activity. To the extent that additional taxes take the form of excises or customs duties, market prices will be higher than they would be if the same amount of revenue were raised through the income tax. If workers receive an increase in wages to compensate them for the part of the rise in market prices that reflects higher indirect taxes, they will escape paying their share of the taxes, and the anti-inflationary effect of the taxes will be reduced. In order to avoid this, the cost of living index used for adjusting wages to prices should be calculated net of indirect taxes.

As all these instances indicate, a system of linking wages to prices may impose a high degree of rigidity of real wages on the economy. Under favorable circumstances, the economy may be able, more or less, to adjust itself to such rigidity. Under unfavorable circumstances, the rigidity of average and relative wages, in real terms, may have serious consequences. It may impair the country's competitive position in world trade. It may impose unemployment on the economy. It may even induce a resumption of the wage-price spiral. These dangers are inherent in the linking of wages to prices; they may be overcome to some extent by providing flexibility in the practical application of the wage-price link.

Administrative Safeguards

The greatest danger inherent in linking wages to prices is the risk of freezing an uneconomic wage base. If real wages substantially exceed the economic value of the wage earner's work, the only remedy is to let prices rise gradually, with only a fractional offset in wages. If the real wages exceed the economic value of the wage earner's work to only a small extent, it should be possible to correct this by a gradual rise in productivity which is not offset by a rise in wages. To prevent the continuance of an uneconomic level of wages, through claims for higher wages based on greater productivity, no wage adjustments should be made, except for the purpose of offsetting a rise in the cost of living, unless the index number of wholesale prices of domestically produced industrial goods has not risen during the preceding year.[6]

[6] While the wage-price link is usually based on an index of the cost of living or of consumer prices, the adjustment of wages for productivity, to avoid an

This may require a degree of wage control that is difficult to impose except under emergency conditions.

Even if an uneconomic wage base can be avoided, it is still important to keep the average rise in wages within the limits imposed by the actual increase in productivity in the economy as a whole. It would probably be futile to attempt statistical measurement of so complex a concept as a change in the productivity of the economy. Nor is such a measurement necessary for this purpose. On the whole, it would be better to provide that the increase in average wage rates to allow for the productivity factor shall not exceed some assumed standard rate of technical progress, say, 2 per cent per year. If such an increase in wages were to result in higher wholesale prices, as measured by the index defined above, a further rise in wages to allow for the productivity factor would be suspended until stability in the wholesale price level was restored.

Some means must be found to adjust relative wages in order to eliminate the distortions generated by inflation. Under free wage bargaining, this would ultimately come about by itself. Where the wage-price link is established by legislation and is administered as a check on money wages, such adjustments have to be made without destroying the wage restraint necessary for stability. Some fraction of the productivity allowance might be specifically allocated for the adjustment of wage rates in industries or occupations in which the supply of labor is markedly inadequate. This would mean that adjustments in relative wages would take place only during periods when wholesale prices are kept stable and efficiency wages are allowed to rise. These are difficult provisions to incorporate either in legislation or in collective bargaining agreements.

Every system linking wages with prices is open to the danger of a renewal of the wage-price spiral as a consequence of a temporary or fortuitous rise in the cost of living. To minimize this danger, the collection of goods and services covered by the cost of living index to which the wage adjustment is linked should be broad and representative. In many countries, the cost of living index has too narrow a base to serve as a suitable means of linking wages to prices. Furthermore, the index should use actual prices, rather than so-called official prices, even though the latter may for a time serve to hold down the cost of living index. When prices are decontrolled or official prices are adjusted upward, an index number that uses official prices rather than actual

uneconomic wage level, should be tested by an index of wholesale prices of domestically produced industrial goods. For a discussion of this point, see Appendix I.

market prices will show an artificially large increase in the cost of living.

The broader the collection of goods included in the cost of living index, the less the danger that a fortuitous rise in prices will necessitate an adjustment of wages. Even so, there may be seasonal movements or temporary bulges in the prices of certain foodstuffs. Wage adjustments should not be made on the basis of a rise in the cost of living index in a single reporting period. Nor would it be desirable to undertake a formal adjustment of the average level of wages, unless there is a significant rise in prices.

The two tests of the magnitude and persistence of a price rise could be combined in a fairly simple way. Thus, it could be provided that no adjustment in wages would be made for a rise in the cost of living of less than some stated figure—say, 3 per cent—unless the price rise has persisted for some stated period—say, one year. If the rise in prices is somewhat higher—say, in excess of 3 but less than 5 per cent—an adjustment in wages could be made if the price rise persists for some shorter period—say, six months. If the rise in prices exceeds 5 per cent in a relatively short period, the adjustment of wages would have to be made more promptly. In general, however, the principle should be that the monetary authorities must be given time to impose more restrictive financial measures to halt the price rise and thus to minimize the need for wage adjustments.

Even with these safeguards, some provision should be made to suspend wage adjustments in an emergency. In terms of a program to halt inflation, an emergency exists whenever prices again begin to rise rapidly. This may be caused by a failure of the monetary authorities to maintain proper policies; it may be caused by external circumstances of a political character. In order to give adequate time for corrective action, the Ministry of Labor or a Wage Board should be authorized to declare an emergency and to suspend for six months all or part of a wage adjustment to offset the first 10 per cent of any price rise. It should be frankly recognized that the flexibility of wages downward, even under a system linking wages with the cost of living, is considerably less than the flexibility upward. For this reason, hasty adjustment of wages with every small and temporary rise in prices may result in building into the economy a structure of steadily rising wage costs.

Summary and Conclusions

It is important to recognize that the linking of wages to prices is not a remedy for inflation nor can it by itself restore monetary sta-

bility. The need for such a far-reaching step is an indication that the monetary authorities have not succeeded in the basic objective of all monetary policy—to give the people confidence in the stability of the value of money. Once an economy can restore a reasonable degree of monetary stability, it is far better off without any formal linking of wages to prices. As a matter of fact, when monetary stability is restored, neither labor nor business nor the government can have any good reason to continue such a tie, which in many respects interferes with the normal process of wage bargaining.

There are good reasons for avoiding any firm link between wages and prices, and more particularly between all wage rates and the index of consumer prices. The greatest degree of flexibility in an economy can be secured if prices and wages are allowed to adjust themselves to market conditions in an environment of monetary stability. Even at best, the linking of wages and prices will increase to some extent the rigidity of the wage structure. If the wage base which is linked to prices is in excess of the economic value of the work, the linking of wages to prices may become a serious obstacle to the restoration of monetary stability. Even if the wage base is properly related to the productivity of labor, it is still necessary to maintain safeguards in administering the wage-price link in order to avoid exempting wage income from sharing the burden of adverse economic forces. Without such safeguards, the wage-price link may become an instrument for generating and perpetuating inflation instead of a means of facilitating the adoption of a comprehensive stabilization program.

Although the linking of wages to prices is not a means of restoring stability to an economy suffering from an investment or budgetary inflation, it would be a mistake to assume that it is the cause of continued inflation. It is quite true that, if labor were willing to concur in a reduction in real wages below the economic value of its work, the price effects of a given excess in aggregate demand would be more limited. Nevertheless, it is unrealistic to expect workers to accept the whittling away of their wage standards by inflation at a time when business is benefiting from an inflated level of profits. Whatever economic objections may properly be made against the linking of wages to prices, the wage-price link will come into use in one form or another, unless the monetary authorities succeed in halting the inflation.

There is apt to be a danger of complacency on the part of labor, business, and the government toward the evils of inflation, once the linking of wages to prices has been established. No formula linking wages and prices can prevent the distortion in investment and production and the disruption of trade and payments which are the inevitable

consequences of inflation. The interest of labor, as of the economy as a whole, is not merely in protecting the distribution of the present level of output, but even more in making sure that production and real income continue to grow. The only way to escape from the disorder caused by inflation is to create an environment in which the distribution and use of real income are responsive to economic forces and the monetary system cannot be used to generate an excessive demand or to support a claim for an uneconomic level of wages. That is the task of the monetary authorities.

APPENDIX

I. Consumer Prices and Wholesale Prices

Some form of consumer price index is always used when a decision has been made to link wage adjustments to the movements of a price index. Of course, no index can reflect fully the effect of changes in prices on the real income of all people, not even of all wage earners. An index of consumer prices is based on a collection of goods entering into the expenditure of a representative family. At best, this collection will only approximate the pattern of expenditure of most family groups of the same size and income. Larger or smaller families with larger or smaller incomes may find that the cost of living for them has risen more or less than is shown by the index of consumer prices. In a country with significant regional differences, the behavior of consumer prices may vary somewhat among different cities and between urban and rural areas. These difficulties are inherent in an index number which is an indication, rather than a precise measure, of changes in the cost of living.

Even under conditions of monetary stability, the index of consumer prices tends to rise gradually, relative to wholesale prices. The consumer price index contains a larger element of services and rents than the index of wholesale prices; and productivity in the service industries, and perhaps in construction, increases somewhat less, on the average, than productivity in agriculture, manufacturing, and mining. Thus, while the behavior of the goods constituent of the consumer price index ordinarily tends to approximate that of wholesale prices, the rent and service constituents ordinarily tend to rise relative to wholesale prices.

The secular relationship between the cost of living and wholesale prices may be destroyed for an entire generation after a period of large and prolonged inflation. Thus, in the United States, consumer

prices rose by 85 per cent between 1937 and 1953, while wholesale prices rose by 96 per cent. In the United Kingdom, the cost of living rose by 127 per cent, while wholesale prices rose by 203 per cent, in the same period. Whatever imperfections there may be in these index numbers, it cannot be doubted that the rise in consumer prices since 1937 has lagged far behind the rise in wholesale prices.[7] Practically all of this lag is accounted for by the failure of rents and services to rise as rapidly as the prices of goods.

In recent years, the cost of living in many countries has been rising relative to wholesale prices (Table 1). Where wholesale prices have

TABLE 1. INDICES OF WHOLESALE PRICES AND COST OF LIVING, SELECTED COUNTRIES, 1953 AND 1957

(*1937 = 100*)

	Wholesale Prices		Cost of Living	
	1953	1957	1953	1957
United States	196	210	185	194
Canada	204	210	185	196
United Kingdom	303	330	227	261
Australia	312	334	263	297
France	2,976	3,214	2,342	2,482
Germany, Federal Republic	218[1]	227[1]	169[1]	180[1]
Netherlands	345	369	263	300
Belgium	384	408	400	428
Sweden	256	279	204	231
India	370	378	312	328
Mexico	417	567	526	716
Brazil	667	1,387	714	1,450

Source: *International Financial Statistics* (Washington).
[1] 1938 = 100.

resumed an upward course during periods of cyclical expansion, as occurred in recent years in the United States, they have soon been overtaken by the continued rise in consumer prices. Whatever special causes there may be, which reflect conditions peculiar to any country, the basic reason for this behavior of consumer prices is the gradual resumption of their appropriate relationship to wholesale prices. This can be seen from an examination of changes since 1953 in some of the constituent series in the index of consumer prices in the United States (Table 2). The consumer prices of food and apparel have behaved in

[7] There are a few, but very few, exceptions to this rule. In some instances, the larger rise in consumer prices, compared with wholesale prices, probably reflects an improvement in the terms of trade.

TABLE 2. PERCENTAGE INCREASE FROM DECEMBER 1953 TO MARCH 1958 IN CONSTITUENTS OF INDEX OF CONSUMER PRICES IN UNITED STATES

	Percentage Increase		Percentage Increase
All items	7.8	Rent	10.5
Food	7.1	Medical care	17.3
Apparel	1.9	Personal care	13.7

Source: Council of Economic Advisers, *Economic Indicators* (Washington), May 1958, p. 23.

much the same way as the wholesale prices for the same products. On the other hand, rent, medical care, and personal care, which previously lagged behind wholesale prices, rose considerably in the same period.

This experience is of some importance in judging the future behavior of prices. Consumer prices may be expected to continue to rise until they have resumed their normal relation to wholesale prices. Such a rise in consumer prices during the next few years is entirely consistent with stability in the index of wholesale prices. As long as the wholesale price level is stable, the gradual rise in the index of consumer prices does not call for any far-reaching measures to restrain aggregate expenditure. At the same time, it would be unfortunate if wholesale prices were allowed to continue to rise on the assumption that there is something inevitable about higher prices in a world of full employment and rising wage rates.

The linking of wages to prices requires an adjustment of wages with the rise in consumer prices. As long as average wage rates do not rise more than the average increase in productivity in agriculture, manufacturing, and mining, the wholesale price level can remain stable, the effects of changes in the terms of trade being neglected. If the monetary authorities are successful in restoring monetary stability, average wage rates will rise with the average increase in productivity, wholesale prices will remain approximately stable, and consumer prices will rise slowly—much less than the rise in wage rates. The proper policy for the monetary authorities in a large industrial country is to aim at stability of some appropriate index of wholesale prices—restraining the expansion of credit when this index of wholesale prices rises, encouraging the expansion of credit when the index falls.

The question will be asked, Why should the monetary authorities aim at stability of wholesale prices rather than of consumer prices? The objectives of monetary policy, insofar as they transcend price stabilization, are related to employment and to the balance of payments. Long-period stability of consumer prices would require a slow

but steady decline in wholesale prices. On the domestic side, such a fall in wholesale prices would tend to discourage investment and increase the difficulty of maintaining employment. On the international side, trade competition is on the basis of wholesale prices, and national price levels can be more readily kept in proper relationship if each country succeeds in keeping its index of wholesale prices approximately stable.

In determining the index of wholesale prices with whose stability monetary policy should be concerned, it is important to choose a collection of goods that does not generate instability in employment or trade through changes in the prices of constituent series. If import goods are included in the collection, a rise in import prices would require an offsetting fall in domestic prices to maintain stability in the index. Under certain circumstances, such a fall in prices could be depressing to the domestic economy. Similarly, a rise (or fall) in agricultural prices would require an offsetting change in the prices of industrial goods. Since agricultural prices are particularly subject to change because of variations in supply, there would always be the danger of inducing a rise or fall in industrial prices to offset the fortuitous behavior of agricultural prices. The price level to whose approximate stability monetary policy should be directed is the wholesale price level of domestically produced industrial goods.[8]

A wage-price link of the type discussed in this paper assumes that wages will be adjusted for any rise in consumer prices, subject to certain safeguards. This will protect wage earners against any significant fall in real wages arising from an investment inflation. In a progressive economy, in which more output is available for private consumption and investment, wage earners are entitled to a wage rise that is related to the average increase in productivity in industry, provided such a wage policy does not bring about a rise in wholesale prices and does not impair the export capacity of the country.[9] If the wage base is

[8] Alternative "stabilization standards" are discussed at some length in E. M. Bernstein, *Money and the Economic System* (Chapel Hill, North Carolina, 1935), Chap. XVIII; see pp. 435–36 for a discussion of the proposal for seeking approximate stability of the price level of domestically produced industrial goods. The concept of approximate stability is not intended to include a gradual rise or fall in prices over a long period. Rather, it is a recognition of the fact that prices will fluctuate in the business cycle and should respond to changes in the payments position. It is not possible, therefore, to maintain perfect stability of any price index. "For all practical purposes it would be sufficient if changes in the price level could be confined to small variations about an accepted norm."

[9] As this reference to export capacity indicates, a deterioration in the real international economic position of a country—that is, an adverse change in the reciprocal demand for exports and imports—would require a fall in export prices relative to import prices. To maintain a proper balance of payments with a fixed exchange rate under such conditions, it would be necessary for wage rates to rise

appropriate for the economy and aggregate expenditure is not excessive, an increase in wage rates equal to the average increase in productivity in industry will generally be larger than the secular rise in consumer prices. Furthermore, such a wage policy will be consistent with maintaining approximate stability in the index of wholesale prices of domestically produced industrial goods.

II. Survey of Wage-Price Links in Various Countries

A. K. Sen Gupta [10]

Argentina

Wages and prices have not been formally linked in Argentina, but wage rates have been subject to government regulation. In the postwar period, wage adjustments were usually made biennially and often by government decree. The objective of these adjustments was not only to compensate workers for increases in the cost of living, but also to increase real wages, particularly in industrial employment. While per capita real income increased by only about 3.5 per cent in the decade 1945–54, the proportion of national income accounted for by wages and salaries rose from 47 per cent to 60 per cent. The rise in real wages was uneven as between different groups of workers and was achieved largely at the cost of rural producers. The rise occurred in spurts, increases being brought about by government action in different periods, followed in each case by a decline in real wages through a rapid rate of inflation.

Following the devaluation in October 1955 and the lifting of price controls over a long list of consumer goods, the cost of living index rose sharply. On February 17, 1956, the Government declared an emergency wage and salary increase of 10 per cent throughout industry and commerce, established a minimum monthly wage of M$N 1,120 for persons over 22 years of age, and took steps to eliminate the differential between wages of male and female workers. Similar wage increases and minimum monthly compensation were later extended to government employees. Wages of agricultural workers were increased by 20 per cent. Any further increase in wages in the private sector was

less than the average increase in productivity in industry, so that there would be some small decline in the wholesale price level of domestically produced industrial goods.

[10] Mr. Sen Gupta, formerly economist in the Special Studies Division of the Fund, is a graduate of Calcutta University, and he also studied at Harvard University. He is the author of "Growth Problems in International Trade," *Public Policy*, Vol. VII (Yearbook of the Graduate School of Public Administration, Harvard University).

left to be decided by collective bargaining between employers and employees. It was decided that revision of the labor agreements was to be initiated between March 1, 1956 and December 31, 1956 and that the new agreements would remain valid for 18 months. It is estimated that these various wage adjustments during 1956 accounted for an average increase in wages of about 14 per cent—a rate somewhat higher than in 1955—and that devaluation and the removal of some price controls and subsidies along with the wage adjustments increased the cost of living during 1956 by about 17 per cent, which was about double the increase recorded in 1955.

The situation deteriorated somewhat during the first half of 1957. The cost of living rose more rapidly, mainly under the stimulus of large wage increases in the last quarter of 1956; this high wage level was maintained in the first quarter of 1957. A part of the rise in prices was due to the abolition of some meat and bread subsidies in March 1957 and the partial relaxation of price controls. Wages remained largely frozen at the high level reached at the end of 1956. Consequently, pressures developed for wage readjustments. Relative stagnation in production during 1956 and the first half of 1957 further complicated the situation. There was, however, in the later months of 1957 a movement by some private business interests to cut prices of some essential commodities, to prevent a continuance of labor unrest.

Australia

A link between the so-called "basic wage" and the cost of living has been in use in Australia since 1913. The basic wage, together with secondary wage payments, including margins for skill, etc., for particular occupations, constitutes the minimum wage rate which is fixed and revised by federal and state authorities from time to time. The link is applied to the "basic wage" part of the minimum wage; the remaining secondary payments are not adjusted to the cost of living, but they are revised on other grounds from time to time.

Between 1913 and 1921, as cases came before the Commonwealth Court of Conciliation and Arbitration, adjustments based on movements in the relevant retail price index during the previous calendar year were made in the basic wage. However, during the period of rapidly rising prices toward the end of World War I, strong criticism developed that this system did not adequately maintain the basic wage in real terms. Consequently, in 1921, the practice was adopted of making automatic quarterly adjustments in the basic wage in proportion to variations in the retail price index during the preceding

quarter. This system was continued until a judgment of September 12, 1953 of the Court led to its abolition.

Between 1946 and 1953, a substantial part of the rise in the basic wage level was in the form of cost of living adjustments. The Court, however, awarded additional increases of 7s. in December 1946 and of £1 in December 1950. In total, the average basic wage level for the six state capitals prescribed by the Court rose from £4 16s. in November 1945 to £11 16s. in August 1953.

In September 1953, the Court decided that the system of automatic adjustments conflicted with industry's "capacity to pay," and that it might have been an accelerating factor in the rapid increases in prices in Australia, particularly in 1951 and 1952. In fact, during 1952 and 1953, the price-wage spiral had continued despite a substantial increase in unemployment. The Court therefore decided to discontinue the principle of automatic adjustment of the basic wage in proportion to variations in the retail price index.

The Court nominally has jurisdiction over only those industries which extend beyond the limits of a single state. In terms of working population, its jurisdiction extends to about 50 per cent of Australian wage and salary earners; most of the other half come under the jurisdiction of state industrial tribunals. Up to 1953, the decisions of the Court in the matter of wage adjustments were followed by the various state authorities. After the 1953 decision, however, the system of quarterly adjustments of wages to prices was retained by the wage-fixing authorities of most states. As a result, anomalies developed in the wage structure in the course of 1954–55, leading to loss of labor and to strike threats in industries paying the lower federal basic wage. In May 1956, the Court rejected union claims for restoration of the system of automatic quarterly adjustments of wages, but favored annual review of the federal basic wage on the basis of the economy's capacity to pay. Following discussions between federal and state authorities during the second half of 1956, which stressed the need to pursue uniform wage policies throughout the country, a few states discontinued the system of automatic quarterly adjustments of wages to prices. This, along with some wage awards by the federal authority (a wage increase of 10s. a week granted in May 1956 to male workers and another similar increase allowed in May 1957), brought federal basic wages closer to the basic wages paid to workers under the awards of the state tribunals.

Austria

In the earlier postwar years, wages in Austria were periodically adjusted to prices on the basis of nation-wide agreements which cov-

ered not only wages and prices but also broader aspects of fiscal and general economic policy. Between 1947 and 1951, organized labor, employers, and agricultural groups under government guidance and sanction negotiated wage limits, fixed agricultural prices, and participated in the determination of prices, taxes, subsidies, and pensions on a national scale. In the five agreements that were negotiated during this period, prices and wages were controlled and adjusted from time to time until the initial phase of reconstruction was over. Prices paid to farmers, retail prices of food, and other controlled prices were increased by each agreement; the resulting increases in the cost of living necessitated compensatory wage increases. This in turn raised industrial prices, and farmers demanded an adjustment of their prices. The agreements did not prevent a substantial price rise, but they limited somewhat the price effects of the inflation.

Between 1948 and 1951 there were annual average increases of 35 per cent in prices and wages. Yet because of the lags in wage adjustments and other price control and fiscal measures, the burden of a high rate of investment was borne by wages, distributed profits, and farm incomes alike, so that in a certain sense the incidence of the inflation of 1948–51 may be said to have been determined by public policy. The last two wage-price agreements demonstrated, however, the futility of continuing this kind of control, and the experiment was abandoned in 1952. Meanwhile, the economy had grown stronger through the recovery of production, and an effective stabilization program, along with a devaluation of the schilling in May 1953, was undertaken without major price and wage adjustments.

Although the system of general wage-price agreements under government auspices was abandoned, a number of wage contracts began to include sliding scale provisions. Such provisions usually require a rise in prices of the order of 5 to 10 per cent before a compensatory adjustment of wages can be applied. This is usually sufficient to ensure that seasonal or purely temporary price fluctuations do not lead to wage increases. Attempts are being made to change the cost of living index (which includes only 83 items) to include a much larger number of goods and to eliminate, as far as possible, seasonal influences from the price index.

While in industry a sharp increase in productivity has, in recent years, led to substantial increases in real wages without widespread reliance on wage-price links, problems have sometimes emerged from lagging farm income and the consequent pressure for higher agricultural prices. Such pressures grew again during 1956–57. However, the Government was careful to avoid price adjustments that would require wage adjustments and thus induce a new wage-price spiral.

Belgium

The use of sliding scale provisions is widespread in Belgium. They appear in almost all wage agreements where they apply to both manual and white-collar workers. Some agricultural workers and government employees also receive automatic adjustments in wages related to increases in the cost of living. The price index used for such provisions is an index of retail prices compiled by the National Institute of Statistics. This is a new index based on prices in 1953 and replaces the older index based on 1936–38 prices, which was outdated. Usually, wages are adjusted every two or three months if the average price index of the preceding months exceeds a certain critical limit.

The decision to link wages with retail prices was reached in 1950 by national employer and employee organizations; by 1952 nearly all Belgian industries were covered by such agreements. Government policy has been directed toward keeping the cost of living stable, and between 1952 and 1955 this policy was markedly successful. With relative stability in the price level, the attention of organized labor shifted to gaining a larger share of increasing productivity. In May 1954, a joint declaration to this effect was signed by labor and employer organizations.

The sliding scale provisions in use in various industries involve the choice of a base date and a range in the retail price index between which the index may vary without requiring wage adjustment. Once the relevant price index moves beyond this range, wages are adjusted by a certain percentage, decided in advance, which may provide full or partial compensation for the price increase. The exact provisions regarding the base date, the range of the rise in prices that is permitted without requiring wage adjustment, and the extent of compensation for a given price rise differ from industry to industry. The most common provision is for a proportionate adjustment in wages when prices have risen by 2.5 per cent. The sliding scale provisions work the same way in both directions—upward and downward. However, under a special agreement, wages were not reduced early in 1955 although retail prices declined.

Bolivia

In Bolivia, massive wage increases have been repeatedly decreed by the Government during the past few years in an effort to compensate for increases in the cost of living and to raise the real wages of certain groups. Following the nationalization of the large tin mines in 1952, the general level of wage rates was raised by an average increase of

40–50 per cent in wages and salaries and in benefits to workers of two of the largest mining companies and by somewhat smaller increases for other workers.

In May 1953, the stabilization efforts included the devaluation of the boliviano from Bs 60 to Bs 190 per U.S. dollar; this, along with further increases in import surcharges, raised the cost of living substantially, through the corresponding marking up of controlled prices. To compensate for part of the increase in the cost of living, a flat increase in wages and salaries was granted to government and private employees. The adjustment was smaller for employees of the Mining Corporation than for most other groups, but prices of wage goods at the *pulperías* (company stores) were frozen at subsidized predevaluation levels. It was also decided to freeze wages for six months.

The wage-price spiral, which accelerated in 1954–56, was sustained by a number of wage adjustments secured by government decree. Effective January 1954, social security benefits were broadened to cover all classes of employees. By a decree of April 1954, workers' wages were raised by 45–50 per cent and salaries of employees in commercial firms by 25–50 per cent, retroactive to January 1, 1954. With prices rising, a general increase of 40–75 per cent in wages was granted in the spring of 1955. This was followed by a 49 per cent increase in the cost of living by mid-1955. Pressures for wage adjustments that began again in late 1955 resulted in advance payments of Christmas and other year-end bonuses. On February 25, 1956, another round of wage and salary adjustments was decreed. Wages and salaries were increased by 52–89 per cent in private industry and commerce, by 46–76 per cent for civil servants and other salaried employees, and by 116 per cent for miners in the nationalized mines. Minimum wages and salaries were also increased. Still another round of wage increases began in June 1956 and was completed by November 1956; this increase averaged 40 per cent for all workers. Early in November 1956, the Government announced a wage freeze that was to continue until a stabilization program came into effect.

On December 15, 1956, a comprehensive stabilization program was put into effect involving major adjustments in the exchange system as well as in taxes, tariffs, government expenditures, wages, and social security. Most subsidies and price controls were removed, and efforts were made to eliminate the deficits of the principal government-owned enterprises. The system of subsidized sales of goods by *pulperías* was abolished in nationalized mines as well as in private mining, railway, and other enterprises. In compensation for the loss of subsidy, wages of workers formerly having access to the *pulperías* were raised by

fixed amounts. In addition, as compensation for changes in the exchange rate and the resulting increase in the cost of living, a flat wage increase of Bs 1,300 per day was decreed for most workers. After this partial compensation for the devaluation and abolition of subsidies, wages were to be frozen for a year. In granting only partial compensation for the increase in the cost of living, the authorities were attempting to fix wages at an economic level, which was considered lower than the real wages that had nominally prevailed in certain earlier periods. The stabilization program has been largely successful, and the cost of living index declined in the first three quarters of 1957.

Chile

Wage and salary adjustments, usually in the form of massive increases for large classes of employees, have been made periodically in Chile. The primary purpose of the adjustments has been to compensate for increases in the cost of living. For example, at the time of the exchange reform of July 1953, legislation was adopted to compensate for the rise in the cost of living expected to result from the depreciation of the import rate for foodstuffs and other cost of living items. The legislation also extended the system of family allowances for workers. Massive adjustments of wage rates were made in 1954 and 1955 in an attempt to compensate for the price rises of 1953 and 1954.

Legislation existing in 1955 provided for the periodic adjustment of salaries of white-collar workers and government employees by amounts corresponding roughly to the increase in the cost of living during the previous year. Salary adjustments generally were made in January each year. The mechanism of the wage and salary revisions differed for (1) manual workers in industry, commerce, mining, and services, (2) white-collar workers in the private sector, and (3) government employees. Agricultural workers usually received annual adjustments in January; these adjustments were measured roughly by the revision each year of the minimum wages fixed by legislation. For employees in the private sector, yearly revisions were made in the minimum wage legislation. Nonagricultural laborers generally obtained, at the expiration of their collective contracts, a wage adjustment commensurate with the increase in the cost of living during the previous year. Some workers in the private sector (particularly employees of some of the larger mining companies) also had contracts providing for automatic wage revision when the cost of living index rose more than a certain percentage—generally 5 per cent—in any month. Government workers were entitled to salary increases of 25–90 per cent (the percentage depending on the level of their salaries) of the estimated rise in the

cost of living index during the previous year. Each adjustment in wages and salaries resulted in a similar increase in the amounts of social security contributions paid by employers and the Government in certain fixed percentages of total wages.

Early in 1956, steps were taken, as part of a comprehensive exchange reform and stabilization program, to break the wage-price spiral. Under the previous law requiring automatic increases in salaries and wages, an increase of about 80 per cent was due in 1956, based on changes in the cost of living. This law was abrogated, however, and on January 23, 1956 the Congress approved a new law limiting automatic wage and salary adjustments. Salary readjustments for private employees carried out at the beginning of 1956 were generally limited to 50 per cent of the cost of living increase from December 1954 to January 15, 1956 (i.e., to 46.5 per cent, which is half the increase of 93 per cent in the cost of living); for bachelors with less than ten years of service in the enterprise, the adjustment was 33 per cent of the increase in the cost of living, i.e., 31 per cent. For government employees, the law provided increases of 44–50 per cent of the rise in the cost of living (in place of the earlier legislation permitting an increase of 25–90 per cent of the increase in the cost of living), depending on the level of salaries. This change not only limited the absolute increase in wages; it was also intended to check the narrowing of salary differentials among public servants.

The provision limiting wage increases to no more than 50 per cent of the rise in the cost of living between December 1954 and January 15, 1956 was made obligatory also for manual workers not under any system of automatic readjustment but whose wages were readjusted by collective bargaining or on the basis of changes made in the minimum wage. In some of the larger mines where escalator provisions with monthly readjustments were in operation, unions agreed to receive compensation for only 50 per cent of the rise in the cost of living beyond the "critical" point.

The new wage policy attempted to ensure that wages would be determined far more by the normal processes of bargaining than by law. For workers in private industry, any agreed increase in wages and salaries over the provisions of the law was valid, but for taxation purposes, the excess was to be considered as profits, rather than as costs of the enterprise. The new legislation also provided for the discontinuance of "automatic" wage adjustments in the future.

These wage stabilization measures were partly responsible for the slowing down of the rate of inflation in 1956. Although the cost of living rose by 38 per cent in 1956, this was less than half the increase in the previous year.

For 1957, the Government originally decided to limit wage increases to about 25 per cent. However, pressures within the Congress and outside resulted in wage increases of slightly over 30 per cent, amounting to about 80 per cent compensation for the increase in the cost of living during 1956. The wage-price spiral is likely to continue until effective steps can be taken to stabilize the cost of living index. During the first eight months of 1957, the cost of living index rose by about 29 per cent.

The use of the cost of living index in effecting massive wage increases has led to a critical re-examination in Chile of the adequacy of this index and to proposals for its reconstruction. The present index is largely outdated, and the weighting system is subject to criticism. For example, a study prepared by the statistical department of the Central Bank showed that the rise in the index in September and October 1956 was due largely to an increase in the price of onions resulting from a temporary winter shortage. While some items have excessive weights in the index, many others are believed to have weights that are too small to reflect their importance.

Denmark

Adjustment of wages to changes in the cost of living in Denmark dates back to 1918. For wage earners, such adjustments have been regulated in postwar years on the lines of a voluntary agreement between nationally organized workers and employers which was concluded in March 1946. According to law, salaries of civil servants are also adjusted in accordance with changes in the cost of living. The provisions of this law have been used as a model for determining salaries of most white-collar workers, e.g., bank employees. The use of the sliding scale is widespread and covers most wage earners, salaried people, and even pensioners.

Wages are revised twice a year on the basis of the cost of living index in January and July. There is a flat-rate increase of wages of around 1 per cent for each six points of increase (equivalent to about 1.5 per cent) in the index (1941=100). Collective bargaining agreements are usually valid for two years, and it is believed that agreements for such a period can be secured only by guaranteeing workers' real wages against serious impairment from inflation.

The weights in the cost of living index are based on an inquiry carried out in 1948 into the expenditure of a sample of families belonging to the working and the white-collar classes. The weight attached to food is low (about 27 per cent), and food, clothing, and

rent together account for half of the total weight. Taxes on income are treated as expenditure in the sample family budget used for measuring changes in the cost of living; in periods of stress arising from a fall in productivity or a deterioration in the terms of trade, it is therefore difficult to take corrective fiscal measures, as higher taxes will result in increases in wages because of the resulting increase in the cost of living index.

In view of these rigid wage-price links, attempts have been made, particularly in periods of balance of payments crisis in 1955–57, to reduce domestic consumption in ways that do not increase the cost of living. Thus, the stabilization policy adopted on June 11, 1957 to reduce domestic absorption included (1) the exclusion of some increases in indirect taxes from the computation of the cost of living index used for wage adjustments and (2) a compulsory saving device. However, the cost of living continued to rise, and substantial automatic wage increases were again required during September-October 1957. Meanwhile, the possibility of omitting both direct and indirect taxes from the cost of living index used for wage adjustments is being seriously considered by the Government.

TABLE 3. COMPONENTS OF INCREASE, 1947–55, IN AVERAGE HOURLY EARNINGS GRANTED TO MALE INDUSTRIAL WORKERS IN DENMARK

(*In öre per hour*)

	Cost of Living Compensation	General Wage Settlement	Other ("Wage Drift")	Total
1947–49	15	10	18	43
1949–51	30	7	8	45
1951–53	25	5	13	43
1953–55	5	4	17	26
Total	75	26	56	157
Skilled workers	75	25	78	178
Unskilled workers	75	27	42	144

Source: United Nations, *Economic Survey of Europe in 1955* (Geneva, 1956).

Though flat rate cost of living adjustments have been paid to virtually all workers throughout the postwar period, there has been no narrowing of differentials based on skill. Wages of skilled workers have gone up more both in absolute amounts and in percentages than those of unskilled workers. This is because a good part of the rise in hourly earnings was due to the "wage drift"[11] (Table 3), employers

[11] The excess of actual wages paid over wage rates fixed by collective bargaining.

paying above-award wage increases to more qualified workers in particular sectors. Because of considerable unemployment among unskilled workers throughout the postwar years, the "wage drift" was relatively small for them.

Finland

Sliding scale arrangements have been widely used in Finland in the postwar years. The big wage increases immediately after the war exceeded the rise in the cost of living, and later attempts, through sliding scale arrangements, to maintain real wages at the rather high level then reached greatly handicapped the Government's efforts toward price stabilization. The efforts of the farmers to increase their share of the national income were also an important factor in the price instability of the postwar period. Up to September 1951, the cost of living index used for wage regulation included direct taxes. In September 1951, however, all sliding scale arrangements were linked to a new cost of living index from which direct taxes were excluded. During the entire postwar period, the Government has found it necessary at times to limit the operation of the sliding scale arrangement by changing the official index or by direct price controls and subsidies. In 1951–55, prices were kept relatively stable by these means; also, stability was supported by a slight fall in import prices.

The stabilization agreement of 1951 provided for a 5 per cent wage rise whenever the new cost of living index (October 1951=100) increased by 5 per cent. If prices should fall, however, no adjustment was required unless the fall was at least 10 per cent.

The compulsory link between wages and prices, administered by the Government, came to an end when the Emergency Powers Act, in effect from 1951, expired at the end of 1955. Decisions on wages were then left to be settled by negotiation between the SAK (the Federation of Finnish Trade Unions) and the STK (the Federation of Finnish Employers). Price controls were abolished, milk subsidies were reduced, and rents of old houses were increased. Meanwhile, import prices of fuels, rubber, and metals were rising. All these factors led to a rise in the cost of living index from 101 in December 1955 to 108 in March 1956. The Federation of Trade Unions demanded either that the increase in the price of milk be canceled or that this increase be compensated by a wage increase; this led to a three weeks' general strike. A compromise agreement between the unions and employees was finally reached, resulting in an increase by 11–12 per cent in average hourly wages. To prevent a wage-price spiral, the Government lowered the corporate income tax and the property tax, thus off-

setting some of the increase in wage costs, and it also reassumed powers to control prices. New negotiations for wage adjustments were permitted only if the price index increased another 5 points (from 107 in February 1956). By a decree in May 1956 (covering the three crop years following September 1, 1956), farmers' incomes were also linked to wages in such a way that a 1 per cent rise in wages would be followed by a rise of 0.85 per cent in farmers' incomes in the form of a corresponding rise in the prices of agricultural produce.

Prices continued to rise during 1956. The wage negotiations which began in the autumn of 1956 between labor and employer organizations yielded no results, despite the mediation efforts of the government arbitrator appointed in November 1956. Late in 1956 a price freeze was announced. In March 1957, corporate taxes were again raised, and the Government recommended some rise in wages at a future date if the cost of living should continue to rise; it also decided to bring down some "critical" prices by reducing the producers' price of milk and the consumers' price of butter and cheese. Trade unions and farmers refused to accept this recommendation, which precipitated a political crisis.

Between February 1956 and July 1957, the cost of living rose by about 14 per cent. As production declined, unemployment grew and the deterioration of Finland's international competitive position led to continuing balance of payments deficits. The trade unions, which had previously demanded full compensation for the rise in the cost of living, scaled down their wage demands in the third quarter of 1957 to modest increases of 1½–2 per cent for the year 1957. Most of the new collective wage agreements concluded during the third quarter of 1957 and expiring at the end of 1958 also contain a two-thirds compensation clause for any future wage increases, i.e., wages would be raised by 4 per cent when the cost of living index reaches 130 (October 1951=100), and by a further amount, making a total increase of 7 per cent, when the index reaches 136.

The restraint exercised in wage demands provided a suitable climate for the devaluation of the markka on September 15, 1957 to offset the adverse effects of an already inflated cost-price structure. It is not yet clear whether farmers will follow the trade unions in making concessions and agreeing to revise their index agreements and legally fixed income guarantees.

France

Sliding scale provisions are rarely used in collective wage agreements in France. A significant link between wages and prices is established,

however, through the variation of the legal minimum wage rates in accordance with increases in the cost of living. During the early post-war years, minimum wage rates were so high relative to wages above the minimum that any significant change in them had substantial effects throughout the wage structure. This was particularly true in 1945–50, when the national wage structure was regulated in detail by the Government, which fixed occupational, geographical, and skill differentials as well as the minimum wage.

In 1950, wage differentials were formally returned to private control, leaving only the minimum wage rate under government control. Regional differences in minimum wage rates, however, remained. Wage differentials, based on skill, which had narrowed in 1945–50 owing to flat rate cost of living adjustments in the minimum wage rates, widened again until 1953. In 1954–55, there was a renewed tendency toward a narrowing of differentials as a result of three government decrees designed specifically to raise the earnings of the lowest paid groups.

In July 1952, legislation was passed by which it became obligatory (rather than discretionary as hitherto) to raise minimum wages in the same proportion as price increases whenever the retail price index showed an increase of at least 5 per cent and which was maintained for at least two months. The price base for minimum wages was 142 (1949=100) so that the sliding scale was to start operating when the cost of living index reached 149.10. The cost of living index was maintained relatively stable, so that no change in minimum wage rates to offset a price rise was necessary until August 1957. The relative stability in the cost of living index was maintained by control of various prices, by subsidies, by cutting indirect taxes, or by increasing imports and decreasing exports of particularly scarce goods included in the index.

Although, until 1957, minimum wage rates were not raised on cost of living grounds, they were sometimes revised (e.g., in April and October 1954 and in April 1955) for manual workers on grounds of an increase in productivity. Wages above the minimum were also revised through collective bargaining between employers and trade unions. After April 1955, the policy of periodic review of minimum wages on grounds of an increase in productivity was abandoned by the Government, and further changes in particular wages on the basis of increased productivity were left to be decided exclusively through collective bargaining. However, the Government adopted a series of other measures which increased wage costs. Thus, in September 1955 employers' social security contributions were raised. In March 1956, the number of paid holidays was increased, and wages in the provinces

were raised. A 10 per cent rise in the special security allowance to the lowest paid retired workers was granted, the cost to be financed through the budget.

During 1956 and the first half of 1957, there were continuous pressures on the cost of living which the Government sought to relieve, as before, by subsidies and other measures designed to keep the index below the "critical" point. Fiscal and commercial policies limited the rise in the cost of living index to about 1 per cent during 1956, but entailed considerable budget deficits and a substantial drain on foreign exchange reserves. The policy of stabilizing the cost of living index through such artificial devices was therefore abandoned in July 1957, when the index was allowed to rise beyond the critical level, to 150. Consequently, a 5.5 per cent increase in minimum wages was granted on August 1, 1957. This affected directly the wages of about 700,000–800,000 workers, or about 20 per cent of the working population. After the end of 1950, guaranteed minimum wages and the general wage level had drifted apart—hourly wage rates rising by almost 40 per cent and minimum wages by only about 26.5 per cent. However, following the 1957 rise in prices and the upward adjustment of minimum wages, new wage demands were made in other sectors as well.

The nature of the link between minimum wages and prices, as well as the adequacy of the cost of living index used in administering the link, has received critical re-examination in recent years. The cost of living index used for the wage-price link was calculated until mid-1957 on the basis of a standard budget of a family consisting of a man, his wife, and two children, and it included 213 items. There were 41 food items, 115 manufactured goods, 7 light and heating items, 47 services, and 3 sundry articles. Three main objections were raised against the use of this index as a basis for minimum wage adjustments: (1) it gave too great weight (58 per cent) to food; (2) it was based on family budgets of workers in the Paris area, although the resulting minimum wage adjustments applied to all French workers; and (3) it included a number of commodities and/or it attached weights to them which were not consistent with the typical budget of the lowest paid workers to whom the index guarantee applies. In 1957, a new cost of living index was constructed to serve as a basis for future minimum wage adjustments. The new index, unlike the old index, is based on the typical consumption of an unmarried, unskilled male worker; it covers only 179 consumer articles and uses different weights. It is, however, still based on the consumption habits of workers in the Paris area. Trade unions have, so far, refused to accept this new index as a basis for minimum wage adjustments, partly because its limited coverage of commodities ignores family needs.

A more radical change in the administration of the link affects the degree of price rise required for wage adjustments. Instead of 5 per cent, as earlier, a 2 per cent rise in the new cost of living index lasting for at least two months is to entail a corresponding 2 per cent increase in minimum wages. This would reduce the magnitude of the impact of the minimum wage adjustments at the points where they occur, though over a given period of time it may entail more frequent wage adjustments. Such smaller increases, it is believed, are also likely to create less pressure for simultaneous wage increases from workers whose wages are above the minimum wage level, and who constitute about 80 per cent of the total number of French wage earners.

The increase in minimum wages on August 1, 1957 was followed by export premiums and import taxes which were equivalent to a selective devaluation. To prevent resumption of a price-wage spiral, some prices were frozen and others cut by government decree.

Germany

Collective bargaining agreements in West Germany do not provide for automatic adjustments of wages to the cost of living. In the hyper-inflation of the 1920's, the period for wage revision under such agreements was reduced from two months in 1921, to one month in 1922, to a fortnight at the beginning of 1923, and to one week by the middle of that year. Agricultural wages were linked in 1923 to the prices of rye and potatoes, and industrial wages were often linked to some crude price index. The experience of the 1920's has made businessmen and the Government extremely reluctant to permit any escalator provisions in collective bargaining agreements. Up to 1950, when the first phase of reconstruction was practically complete and real wages appeared to have reached their prewar level, wage demands were modest and, in spite of rising prices, they were not pushed to extremes. Unlike the experience in the period following World War I, strikes have been rare. The strike of metal workers at Hesse in the fall of 1951, which lasted several weeks, was the first major signal of wage pressures consequent on the sharp rise in prices in 1951.

Though no formal link exists between wages and the cost of living, an increasing number of collective bargaining agreements concluded during the price rise of 1951–52 were for such short periods that fairly frequent adjustments of wages to changes in the cost of living were in fact taking place. The effects of this practice are similar to those of the so-called wage-reopening clauses, which occur in certain collective bargaining agreements in West Germany. Thus, the agreements in February 1951 for the printing and allied industries stipulated that

wage negotiations might be reopened if the cost of living index moved up by 7 per cent; in June 1951, this margin was reduced to 3 per cent. In the latest wage agreements for the printing and allied industries, however, such specific wage-reopening clauses linked to the cost of living have been dropped and replaced by a general clause which gives either side the right to give notice of withdrawal from the agreement if economic conditions should have changed.

The spate of strikes in 1954, when prices were stable, was an expression of labor's demand for a larger share in increasing productivity. Pressures for wage increases grew as practically full employment was reached in 1955. The rise in the cost of living in 1955 and 1956, which was due largely to higher agricultural prices, further contributed to growing wage pressures in industry and resulted in higher wages. However, a considerable rise in productivity, the lag in wage adjustments, the maintenance by employers of agreed wage rates, and the refusal to accept wage-price links have made it possible for the German Government to deal with inflation through financial policy more effectively than has been possible in most countries.

The implications of wages-cost of living links have been widely discussed by the German press and studied by various government departments. Problems involved in seasonal fluctuations in the cost of living have also been discussed. The conclusions in all cases have been that such links would jeopardize the flexibility of the economy, handicap monetary and fiscal policy, and possibly lead to an acceleration of inflation.

Israel

Most of the gainfully employed persons in Israel have been paid wages subject to a cost of living allowance since early in the 1940's. An automatic increase in wages is granted whenever the price index rises by 3 points (about 1.2 per cent) or more within a period of three months. This provision is not statutory, but it is included in the agreements between the General Federation of Labor (Histadrut) and the Manufacturers' Association. The Government not only does not interfere while these two organizations are negotiating an agreement, but it undertakes to grant similar terms to government employees.

In the first five months of 1956, the index used for the wage-price link rose by 4.2 per cent (from 239 to 249, September 1951=100), mainly because of higher prices of vegetables, the supply of which declined owing to adverse weather conditions, but also because of new government and municipal taxes. The Manufacturers' Association,

after agreeing to an increase in basic wages, refused to renew the cost of living allowance agreement. Early in 1957, through the mediation of the Government, the Histadrut and the Manufacturers' Association reached a new agreement, valid for two years, by which wage adjustments will be made every six months (instead of three months as earlier) if the cost of living index rises by 3 per cent (not 3 points, or roughly 1.2 per cent, as earlier). However, if the index rises by as much as 5 per cent within a period of three months, an adjustment will be made before the six-month period has elapsed.

By lagging the link between prices and wages, the new agreement should make it easier to maintain price stability through fiscal and credit policy. The arrangement that collective bargaining agreements between employers and employees are to be for two years instead of one year will also contribute to greater stability in wage rates. A stricter control over premium payments and promotions has also been advocated in the 1957 agreement, so as to prevent "automatic" premium payments and fictitious upgrading of workers which in the past has been responsible for part of the "wage drift" beyond the nationally agreed basic wage rates. A good part of such "wage drift" has been in the form of incentive earnings, which did not exist before 1952 but have since become widespread.

Two other important changes have been made in the system linking wages and the cost of living. First, the minimum to which cost of living adjustments are applied has been increased from the first I£125 of the basic monthly salary to I£500 per month. The previous low limit had meant a narrowing of wage differentials, which provoked internal tensions in the Histadrut. Second, under the new wage system the pay which a worker received in January 1957 is considered to be his basic wage. This includes not only the basic wage paid in November 1956 but also the cost of living allowance and the frozen one third of the salary increases granted to workers under the wage agreements concluded in the beginning of 1956.

That this basic wage is too high relative to productivity is believed to be indicated by the pressure of inflation, the large import surplus, and the difficulty of providing employment for the growing number of immigrants. Partly because of such pressure, the cost of living index rose again by 3.2 per cent in the first six months of 1957, necessitating a 3.2 per cent rise in gross wages, under the index agreement, as from July 16, 1957. The pressure of wage inflation thus remains, although increasing productivity, restraint in wage increases, and strict monetary policy should eventually bring about a proper wage scale.

Italy

In Italy, a sliding scale of wages was applied in the northern provinces in December 1945. Various modifications have since been made in the cost of living index as well as in the provisions for adjusting wages. The use of the sliding scale has become widespread, covering most manual and white-collar workers and many government employees and agricultural laborers.

A national agreement for a wage-price link was made on March 21, 1951 between the Confederation of Italian Industries and the three large federations of trade unions. For the purpose of calculating wage adjustments, wages were divided into two parts—base pay and "temporary indemnity." The "temporary indemnity" was to vary with changes in the cost of living after the base date, November-December 1950. Adjustments in the temporary indemnity were required every two months if the average of the cost of living index in the two preceding months had risen by over 0.5 point. For the purpose of the sliding scale, any variation of less than 0.5 point is ignored, and a variation between 0.51 and 0.99 point is treated as a full point. For each "point" of increase in the cost of living index, the agreement fixed a wage adjustment designated in lire, the number of lire differing according to geographic region and industry and the age and sex of the worker. Care was thus taken not to narrow wage differentials.

The sliding scale arrangements agreed to in 1951 did not work in the same way with regard to downward movements in the cost of living index. Adjustment was automatic for both upward and downward price movements, but there was a longer time-lag if wages had to be reduced. The sliding scale thus could operate downward and cause a reduction in the "temporary indemnity" only if the cost of living index showed a drop of more than 4 points from the highest peak previously reached. Another important provision of the 1951 agreement was that a variation of more than 25 per cent in the cost of living, compared with the base period, would entitle either party to the contract to request that the agreement be re-examined. With some differences in detail, sliding scale provisions, similar to those negotiated in the industrial sector in March 1951, were adopted in nonindustrial sectors, e.g., in trade, credit, and banking, and for farm workers.

The technical deficiencies of the index, the short time-lag between movements of prices and of wages, and the asymmetry between upward and downward adjustments were subjected to considerable criticism in early 1956, when bad weather conditions caused a shortage of fruits and vegetables and forced up the price index and, through the sliding scale, the wage level. On January 15, 1957 a new agreement

was signed by the employers' and workers' organizations, which became operative from February 1, 1957. It differs in several respects from the agreement of March 1951.

Under the new agreement, the so-called "temporary indemnity" is to be changed at intervals of three months, instead of two months as hitherto. Price changes will be calculated by averaging the index numbers of the preceding three months. The new agreement also accepted the principle of equal variation for both upward and downward adjustments. In practice, however, the index has to drop by 1 whole point for the sliding scale to operate downward, whereas any rise in prices of more than 0.8 point requires an upward wage adjustment. Furthermore, if prices fall, the "temporary indemnity" will not be reduced in the quarter immediately following the fall, but in the quarter after that, and then only if the index remains at the lower level.

The base of the index number to be used for wage adjustment is the average of May-June 1956. The high wage level recorded at that time was responsible for the last rise in the "temporary indemnity" on August 1, 1956 under the agreement of March 1951. The use of any other base period, with a lower index, would obviously have meant that any rises in the cost of living that had already caused increases in the temporary indemnity would be taken into account a second time in calculating future wage increases. Some minor changes have also been made in the cost of living index used for sliding scale purposes, e.g., in the weights used for averaging local price indices and in the recording of fruit and vegetable prices so as to minimize seasonal fluctuations.

Netherlands

The Netherlands is the only European country where all increases in wages are subject to government sanction. No formal link exists between wages and prices. Changes in the cost of living have, of course, been taken into consideration in fixing wages. At times, with the cooperation of labor and employers' organizations, real wages have been reduced to cut down consumption in order to increase investment or to improve the balance of payments situation. Thus, the wage and price agreement in March 1951 was designed to compensate workers for only half of the 10 per cent increase that had occurred in the cost of living. Again, in 1957, there was only a partial adjustment to a higher cost of living—this time through a restricted increase in family allowances instead of through wage increases.

In general, up to early 1954, wages followed prices with about a six-month lag, holding down real wages to close to prewar levels. There

has been comparatively little "wage drift," payment of wages above the approved level being illegal in the Netherlands.[12] Adjustments of wages to prices did not narrow (proportional) wage differentials for skill in the period 1947–55. Rigorous job evaluation and job classification have also prevented fictitious upgrading and similar devices to evade the standard wage levels. In 1954–56, wage pressures grew and substantial increases in real wages were permitted through higher wage rates and larger fringe benefits. Attempts were made to ensure that a fair part of the rise in wages in this period was met out of accumulated profits and current increases in productivity, without entailing a wage-price spiral. Greater flexibility in the wage structure was permitted in 1956, so that higher wages may be paid where labor is relatively scarce.

Norway

Wages and salaries in Norway are adjusted to changes in the cost of living by a system which seeks to avoid a rigid automatic link. Contracts renewed in the spring of 1956 included a reopening clause to the effect that, if in March or September 1957 the cost of living index should show an increase or a decrease of 6 points from the base figure of 150 (1949=100), either of the parties to the contract could request a revision of wages. No commitment was made regarding the amount of wage variation consequent on a 6-point change in the index, the exact amount being left to be fixed by negotiation between labor and employers' organizations. If the contracting parties should fail to reach an agreement, the party that requested adjustment of wages (upward or downward) would be entitled within two weeks to dissolve the contract with one month's notice. Such wage-reopening clauses are widely used because most wage contracts are made for a two-year period.

In early 1958, the labor and employers' organizations agreed on a wage contract for three years instead of the customary two, and on raising to 160 (1949=100) the "ceiling" of the cost of living index on which wage adjustments are based.

The cost of living index used in such negotiations was based on family budget studies made between October 1951 and September 1952 covering 45 towns and 8 industrial centers situated in different parts of the country. It was a retail price index covering 370 items. The index was sufficiently broad not to be significantly affected by movements in only a few prices.

[12] The increase in average hourly earnings beyond average hourly wage rates in industry was significantly lower in the Netherlands in the postwar years than in many other countries, e.g., Denmark, Sweden, and the United Kingdom. There was, however, a significant "wage drift" in particular sectors, resulting in part from the increasing use of piecework. The "wage drift" was particularly substantial in the building industry.

Sweden

During World War II, Sweden had wage-price sliding scale arrangements on terms agreed between the Swedish Trade Union Federation (LO) and the Swedish Employers' Confederation (SAF). Under wage-price agreements made during the war, the adjustment of wages to higher prices was seldom complete: it varied from nearly 75 per cent of the price rise in 1940 to about 50 per cent in the immediate postwar years. As a result of other types of wage adjustment, however, real wages were maintained in most industries at their prewar level. The LO-SAF agreement in January 1945 specified the wage adjustments to be made for each rise in the cost of living index. Wage adjustments for higher prices were usually made quarterly, but no downward wage adjustment could be made. Employers were entitled to cancel the agreement only if the cost of living had fallen to a level at which real wage rates would at least be equal to those prevailing in 1939.

At the end of the war, the Employers' Confederation refused to accept any such sliding scale arrangements; they were accordingly discontinued after 1946 without significant opposition from the Trade Union Federation, which, in the interest of stability, agreed to exercise wage restraint in the immediate postwar years. Though wages were not linked to the cost of living index, attention was given to price changes in formulating wage demands. In some cases, "reopening clauses" were inserted in collective wage contracts. In general, wage increases were agreed annually by the employers' and workers' federations, with the Government acting, at times, as a regulating authority. It is estimated that over the entire postwar period the agreements have provided an annual average increase in hourly wage rates of about 5 per cent for male workers in manufacturing industries. In addition, overtime pay, increases in piecework, movements of labor from low paid to highly paid occupations, and the great demand for labor have resulted in a "wage drift" raising hourly earnings of male workers in manufacturing by a further 4 per cent annually.[13] The period of relative price stability between 1952 and 1954 was accompanied by a more moderate rise in wages.

Partly because of higher excise taxes on some essential goods and some rise in prices of food, fuel and light, and rent, the cost of living rose in 1955 and again in 1956; this increased pressures for higher rates and revived interest in sliding scale arrangements. On February 21, 1957, an agreement was reached between the LO and the SAF providing

[13] This is a rough average. Year-by-year classifications of wage increases by negotiation and by "wage drift" are given in Gosta Rehn's article, "Swedish Wages and Wage Policies," *The Annals of the American Academy of Political Science*, March 1957.

for an increase in wage rates of 2 per cent or of 10 öre per hour (whichever is greater) for 1957, and a 2 per cent increase in piece rates and a 3½ per cent increase in time rates in 1958. The significant feature of this agreement was that it covered two years and was thus a reversion to the practice of longer agreements, which was usual before the war.

Because of the longer period covered by the agreement, the trade unions demanded a sliding scale provision to protect the workers against any sharp rise in prices. It was agreed, therefore, that if by November 1957 the cost of living index (1949=100) should rise to 150 (in March 1957 it was 143) the workers could reopen the contract to negotiate for a cost of living adjustment. The size of the adjustment was not specified, and if no agreement was reached either party might cancel the agreement on two weeks' notice. Thus, any rigid linking of prices and wages was deliberately avoided. The agreement also provided that if the index should reach 150 as a result of fiscal changes, such as a new general sales tax or similar taxes, no wage adjustment could be asked for. Price increases resulting from such taxes would be deducted from the index to calculate the critical ceiling at which the contract could be reopened in November 1957.

United Kingdom

Sliding scales to adjust wages to the cost of living index were first introduced in the United Kingdom in certain industries toward the end of World War I. The system was gradually extended to other industries and services until in 1922 the total number of workers covered by such agreements rose to about 3 million, i.e., about 16 per cent of the labor force. In addition, wages in some branches of industry (e.g., the steel industry) were adjusted to the prices of the articles manufactured by the industries (for instance, the price of a ton of standard steel). The use of escalator clauses in wage agreements disappeared with the onset of the Great Depression. By 1939, however, the number of workers covered by such clauses was about 1½ million, i.e., about 8 per cent of the labor force.

During World War II, there was a further extension of sliding scale provisions. Though in some industries and services the sliding scale provisions in use at the beginning of the war were suspended or abandoned, the number of workers covered by sliding scales had risen by June 1944 to about 2½ million, or about 11 per cent of the labor force. Since the end of the war sliding scales have been abandoned in some important industries, and comparatively few new sliding scales have been introduced in other industries. Nevertheless, in April 1957, the total number of employees covered by sliding scale provisions was

still about 2½ million (which at that time was only 10 per cent of the total labor force), as a result of increases in the number of workers employed in some of the industries which used sliding scales. The number of workers had increased in particular in the building industry, which employs about half of the workers covered by sliding scale provisions in the United Kingdom. Other important industries in which sliding scales are operative include mining and quarrying, glass, printing, iron and steel, and textiles.

While for particular categories of workers covered by sliding scale provisions a substantial percentage of the year-by-year increases in wage rates secured after the war was in the form of sliding scale adjustments, these adjustments were responsible for only a relatively small proportion of the wage rate increases received during 1945–56 (Table 4). Generally speaking, about three fourths of the increases in

TABLE 4. METHODS BY WHICH CHANGES IN U.K. WAGE RATES WERE ARRANGED, 1945–56

	Total Amount Secured in Weekly Wage Increases (*£ million*)	Number of Workers Affected (*million*)[1]	Percentage Attributed to			
			Voluntary negotiations	Sliding scales	Statutory bodies	Arbitration and mediation
1945[2]	1.8	7.3	59	3	10	28
1946[2]	2.9	8.0	85	1	10	4
1947[2]	1.7	5.0	56	1	30	13
1948	1.9	7.8	82	6	9	3
1949	1.1	5.2	43	11	33	13
1950	2.0	7.4	65	8	19	8
1951	6.6	12.3	72	6	17	5
1952	4.5	11.5	53	15	19	13
1953	2.4	9.0	25	19	36	20
1954	3.5	10.1	72	8	8	12
1955	5.1	11.9	74	6	15	5
1956	6.6	12.6	70	6	21	3

Source: *Ministry of Labour Gazette* (London, England), January issues, various years.

[1] Of about 17 million wage earners, roughly 13 million were employed under collective agreements and another 4 million under statutory regulations.

[2] Particulars relating to government employees were first introduced in 1948; therefore figures for 1945–47 are not strictly comparable with later years.

wage rates were agreed in voluntary negotiations between workers and employers. Of course, the rise in the cost of living has been an important consideration in wage negotiations, so that there is a strong informal link between the cost of living and wages.

Wage increases relative to increases in the cost of living have been greater since 1953 than before, though the proportion of increases attributable to sliding scales has been somewhat less in the later period.

The collective agreements in which a sliding scale is usually included show considerable differences in the content of the provisions which link wages with price adjustments. Wage adjustments are usually made at intervals ranging from a quarter to a year. The movement required in the index of retail prices (the "cost of living" index used, as described below) before a wage adjustment is made ranges from 1 to 10 points. Most agreements provide for a wage adjustment of a specified amount per hour or per week for each change of 1 point in the price index. In the building industry, where sliding scales are most popular, wages have been revised annually and usually have varied ½d. per hour for each variation of 3 points in the price index. In most industries where a sliding scale is used, wage earners are classified, usually as adult males, women, and juveniles, and different flat rate adjustments are applied to the cost of living bonus so that the differentials between the wages paid to these categories are not disturbed. The type of sliding scale actually used in any industry is decided, and may be changed from time to time, by collective bargaining within the industry.

From June 1947 until the end of 1956, sliding scale arrangements made use of the interim index of retail prices, which was based on an inquiry into household expenditure of about 11,000 working-class households in 1937 and 1938. This index was revised as from January 1952, on the basis of estimated consumption in 1950. A completely new index was introduced as from January 1956, broadening the categories of employees considered, reducing the weight given to food, and adding about 80 new items (including washing machines, secondhand cars, television sets, telephone rates, etc.). Most of the sliding scale agreements renewed during 1957 were based on this new index, with January 1956 as base.

United States

In the United States the sliding scale was used in some collective agreements in the early postwar years; the popularity of this instrument increased during the Korean boom and again during 1955–56.

In terms of the number of workers affected, and of its importance in setting a pattern for other industries, the postwar escalator clause embodied in a contract between the General Motors Corporation and the United Automobile Workers in May 1948 was the most notable. This provision was retained when the contract was renewed in May 1950. According to this agreement, wage adjustments might be either

upward or downward; and since the cost of living declined at times during 1948–50, downward adjustments then occurred. During the first two years (ended May 1950) of the agreement, there were two upward adjustments and three downward adjustments under the escalator clause.

By June 1950, sliding scale provisions applied to about 1.5 million workers. With the Korean boom, the use of sliding scale provisions grew. At the end of March 1951, about 500 collective agreements covering 2.5 million workers contained clauses providing for the adjustment of wages to the cost of living. The coverage grew to a peak of over 3.5 million workers in September 1952. Thereafter, with relative stability of the cost of living, the number of workers covered by sliding scale provisions declined to less than 2 million by January 1955. The increasing use of longer-term wage contracts in 1955 and the tendency for prices to rise in 1956 again stimulated the use of sliding scale provisions in collective agreements. It is estimated that in early December 1956 a total of at least 3.5 million workers employed under union contracts and another 300,000 unorganized workers had wages linked to the cost of living. Most of the workers covered by these clauses belong to the railroad, automobile, basic steel, meat-packing, and electrical industries.

During the Korean war, the Wage Stabilization Board was partly successful in checking the widespread growth of wage escalation provisions. Such clauses were carefully scrutinized to make sure that they conformed to certain conditions. Specifically, in January 1951 the Board limited upward escalation to a 10 per cent rise in wages (changed to 12 per cent in August 1951) and insisted on escalation working downward as well as upward. It also ruled that, in the absence of escalator clauses, wages could nonetheless be adjusted every six months (whatever the period of contract) to changes in the consumer price index. With this wage-reopening provision (which unlike escalation avoided the risks of a downward adjustment) and the expectation of price declines after the Korean fighting, escalation provisions were omitted in many contracts which came up for renewal in 1953 and 1954.

In most collective bargaining agreements where sliding scales were abandoned, all of the accumulated cost of living allowances were absorbed into the basic wage rates. In many contracts which retained sliding scales, similar modifications were made so that part or all of the current cost of living allowances was added to the basic wage rates. Such amendments generally insulated the higher base wage from any downward adjustment if prices fell, although in some cases some of the earnings were omitted from the basic wage rates and this "float" could fluctuate with future changes in the consumer price index.

The wage agreements negotiated in 1955 or 1956 were generally for longer periods. Because of this, they included not only provisions for adjusting wages to changes in prices, but also provisions for deferred (scheduled) wage increases. In 1956, workers covered by the United Automobile Workers' contracts received deferred increases averaging 6 cents to 7 cents per hour and a rise of 6 cents per hour under the cost of living escalator clause. A new three-year agreement in the steel industry in the summer of 1956 similarly combined forward wage claims (apparently justified on grounds of expected improvement in productivity) with sliding scale provisions linked to consumer prices.

The price index used is usually the Bureau of Labor Statistics revised index of consumer prices, which measures price changes for the country as a whole, although some use is made of local price indices. The base date to which changes in wages and prices refer is fixed by bargaining, each party trying to fix the base date at which the ratio of wages to prices is deemed to be most favorable. Most adjustments are quarterly, but there is an increasing tendency for half-yearly adjustments, particularly in longer-term contracts. Some adjustments are annual. Although a few wage adjustments are proportional, most are on a flat rate basis. Typical sliding scale clauses in effect at the end of 1956 provided for a 1 cent change in hourly wage rates for each 0.5 point change in the consumer price index, or a 2 cent change in hourly wage rates for each 0.9 point change in the index.

A large number of collective bargaining agreements which do not provide for sliding scale adjustment have various wage-reopening clauses permitting a reconsideration of the contract whenever the consumer price index rises beyond a certain point.

Nonbank Financial Intermediaries, Credit Expansion, and Monetary Policy

Richard S. Thorn*

NONBANK FINANCIAL INTERMEDIARIES (henceforth in this paper referred to as NFI) have grown and continue to grow in importance in many countries of the world. Their development has led to serious consideration of the question whether the efficient conduct of monetary policy requires closer regulation of these institutions. At present, in most countries they are regulated in much the same manner as commercial corporations. This paper is an attempt to clarify their role in the expansion of credit and to examine the manner in which they differ from commercial banks; the results of this investigation are then used to assess some of the implications of the growth of NFI for monetary policy.[1]

Credit Creation by Nonbank Financial Intermediaries

The first question to be considered is whether the operations of NFI increase the amount of credit that can be extended on the basis of any given level of central bank liabilities to the public, and if so, by how much. The introduction of NFI into the financial system can in fact be shown to increase the potential amount of credit that may be extended for any given increase in the liabilities of the central bank, and this conclusion can be extended without difficulty to a financial system where NFI that are already operating grow relatively to the banking system. One of the principal conclusions of this paper is that any threat which the NFI may present to the successful implementation of monetary policy lies not so much in their long-run secular growth as in their ability in the short run to expand credit, immune from direct central bank control.

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[1] For another study in this field, see in this issue of *Staff Papers*, Eugene A. Birnbaum, "The Growth of Financial Intermediaries as a Factor in the Effectiveness of Monetary Policy."

It is well known that, if banks maintain some minimum reserve ratio against deposits, any given increase in bank reserves (i.e., in the liabilities of the central bank) makes it possible for the banking system to increase its deposit liabilities and, simultaneously, its loans and investments by some multiple of the increase in bank reserves.[2] If there were no NFI, these bank operations would account for all of the credit that could be extended by the financial system.

How far will this situation be changed by the introduction into the credit system of an NFI, e.g., a building society which accepts deposits on the same conditions as the banks and which makes only mortgage loans? If a private individual then shifts a deposit from a bank to an NFI, say in response to an interest rate differential, and the NFI deposits this sum in its own bank account, the total deposits of the banking system will remain unchanged.[3] All that has happened is a change in the ownership of these deposits; the deposits of private individuals have fallen and the deposits of intermediaries have risen by the same sum.[4] However, the total deposits of the financial system have increased since the building society has accepted a deposit liability which did not exist before. The corresponding asset held by the intermediary at this initial stage is a deposit with the banking system. Provided the NFI hold their reserves in the form of deposits with the banking system, the use of the funds which they have newly acquired for the expansion of mortgage loans will leave the reserves of the banking system unchanged. Since the loans and investments of the banks are unaffected by the shift in deposits, loans by the NFI represent a net addition to the credit extended to the public. If the customary reserve ratio of the building society is r', then the society may lend, in the form of mortgage loans, an amount equal to $(1-r')$ times the increase in its deposits. If some of this increase in credit extended by the NFI results in a further rise in the deposits of the NFI, a further increase in credit will be possible in a manner analogous to that in which the bank credit multiplier operates. It is important to note, however, that the initial shift in deposits from the banks to the NFI is by itself sufficient to permit a net addition to the total credit outstanding to the public. The multiplier effect of any return flow to the NFI increases only the amount of the NFI's net addition to total credit.

[2] See Appendix, footnote 14.

[3] Omitting the small increase in the currency holding resulting from the NFI's need for till money.

[4] The effects of the differences in banks' reserve ratios against demand deposits and against time deposits are considered below.

NONBANK FINANCIAL INTERMEDIARY MULTIPLIER

The value of the nonbank financial intermediary multiplier (nonbank multiplier, for short) depends on the percentage of reserves that the NFI hold against their liabilities and the proportion of their loans and investments that return to them as deposits. The higher the reserve ratio and the lower the return flow, the lower will be the nonbank multiplier. The formal relationship between these variables and the nonbank multiplier is given in the Appendix. The values of the nonbank multiplier for various reserve ratios and return flows are shown in Table 1. In most countries, the likely values of the nonbank multi-

TABLE 1. VALUES OF THE NONBANK FINANCIAL INTERMEDIARY CREDIT MULTIPLIER FOR VARIOUS RESERVE RATIOS AND PERCENTAGES OF INDUCED DEPOSITS OF THE NONBANK FINANCIAL INTERMEDIARIES [1]

Reserve Ratio of Nonbank Financial Intermediaries as Percentage of Deposits	Percentage of Increase of Loans Which Return as Deposits to NFI					
	1	5	10	25	50	75
3	0.98	1.02	1.07	1.28	1.88	3.56
5	0.96	1.00	1.05	1.25	1.81	3.30
10	0.91	0.94	0.99	1.16	1.64	2.77
25	0.76	0.78	0.81	0.92	1.20	2.31
50	0.50	0.51	0.53	0.57	0.67	0.80
75	0.25	0.25	0.26	0.27	0.29	0.31

[1] Computed on the basis of relations shown in the Appendix.

plier appear to lie between 0.8 and 1.3, approximately. For a low reserve ratio and return flow—which is the most prevalent situation—the value of the nonbank multiplier will be close to unity. This means that the NFI can expand their loans and investments by an amount roughly equal to any increase in their deposit liabilities.

There are several ways of looking at the NFI's ability to add to the net total credit of the financial system. On the basis of any given volume of reserves consisting of central bank liabilities to the banking system, there is, on the liability side, a "double expansion." An increase in central bank liabilities permits a multiple expansion of bank deposits because the banks need hold only a fraction of central bank liabilities as reserves against their deposit liabilities. Similarly, NFI may increase their deposit liabilities because they need hold only a fraction of private bank deposits as reserves against their liabilities.

On the asset side, a deposit received by the NFI economizes central bank liabilities (potential bank reserves), because only a fraction of it

must be held as a private bank deposit, and, in turn, only a fraction of this bank deposit must be held as a central bank deposit. An NFI deposit therefore can be supported by a smaller amount of central bank liabilities (bank reserves) than is required to support a bank deposit.

Influence of NFI on Bank Credit Multiplier and Combined Bank and Nonbank Multiplier

In the analysis thus far, deposits have been treated as homogeneous, whereas, in fact, there are important distinctions between demand deposits and time deposits. Of course, one obvious difference is that the former are part of the money supply, as customarily defined, while the latter are not. The mechanism described in the previous section involved the transfer of a bank deposit from the account of an individual to the account of an NFI, which left the total deposits of the banking system unchanged. However, when it receives a deposit, an NFI will normally place it in a demand deposit account with a bank until, as a result of being loaned out or invested, the deposit is transferred to a demand or time deposit account of some other individual in a bank. If the initial shift of deposits is from an individual bank time deposit to an NFI deposit (and this is likely to occur frequently since NFI deposits are in many respects closer substitutes for time deposits than for demand deposits of banks), then the ratio of the demand deposits to the time deposits of the banking system will rise. This rise may have important secondary effects which will tend to diminish the amount of potential credit expansion indicated by the previous analysis.

For most banks, the reserves held against demand deposits are higher than those against time deposits. Either the banks are forced by legal requirement to maintain the higher ratio, or they do so voluntarily on the basis of the banking principle that a more liquid asset should be held against a more liquid liability. A shift in time deposits from the banking system to the NFI, which results in a higher ratio of demand to time deposits in the banking system, raises the average required or customary ratio of bank reserves to deposits. This rise in the reserve ratio lowers the value of the bank credit multiplier and will partially offset the potential increase in credit extended by the NFI.[5]

The net amount of potential credit expansion permitted by a shift in deposits from banks to the NFI depends on the reserve ratios main-

[5] Examples may be constructed where the potential increase in credit may be exactly, or more than fully, offset by the rise in the average reserve ratio of the banking system.

tained by banks against time and demand deposits, the percentage of the shift represented by time deposits, and the nonbank multiplier. If it is assumed that the banks are initially "loaned up," an exact expression may be derived, as is shown in the Appendix, for the total amount of credit potential added to the financial system by such a shift. In general, the smaller the differential between the reserve ratios against time and demand deposits, the higher the general level of bank reserve ratios; and the lower the percentage of the shift represented by time deposits, the greater will be the amount of potential credit expansion.[6]

To obtain some idea of the quantitative importance of this effect, a numerical example will be constructed using quasi-realistic values for the United States. It will be assumed that $1 billion of bank time deposits (approximately 2 per cent of total bank time deposits) is shifted to the NFI. The value of the NFI credit multiplier is computed on the assumption that the reserve ratio of the NFI is between 3 per cent and 10 per cent and the return flow to NFI, between 5 per cent and 10 per cent (slightly wider limits for these variables will produce approximately the same results). The average ratio of reserves held by banks against demand deposits is 18 per cent; that against time deposits is 5 per cent. If the banks are "loaned up," the following results are obtained: (1) The net increase in the credit potential of all financial intermediaries is $0.41 billion; (2) the increase in the credit potential of the NFI is $1 billion; and (3) the reduction of credit extended by the banks is $0.59 billion.

The difference between the reserve ratios of the banks against time deposits and the ratios against demand deposits is thus sufficient to offset almost three fifths of the increase in the credit potential of the NFI. However, to the extent that some of the shift might consist of demand deposits rather than of time deposits, the smaller the offset would be and the larger the total increase in potential credit expansion.[7]

Difference Between Banks and Nonbank Financial Intermediaries

If banks create credit and the NFI create credit, what is the difference between them? One difference, of course, is obvious: the banks create demand deposits and the NFI do not. In fact, in the creation of demand deposits, the commercial banks have an institutional monopoly,

[6] This follows from equation (6) in the Appendix.

[7] Cf. Appendix, section IV, for discussion of the effect of the length of the transaction periods.

which is often established by custom rather than by law. Because of their ready substitutability for currency, these demand deposits are considered as part of the stock of money. The banks, therefore, may create monetary liabilities while the NFI may not.[8]

The NFI may be ranked according to the closeness of the substitute for money that is provided by their liabilities. If this closeness to money could be depicted on a linear scale, it would be found that the distance between adjacent financial intermediaries would vary greatly, with many wide gaps. At the end nearest to the money-creating institutions there would be savings and loan associations, building societies, etc., all of which produce close substitutes for bank time deposits. At the far end of the scale are insurance companies, pension funds, etc. While the financial liabilities of the financial intermediaries at the end of the scale closest to money may be readily substitutable for one another at the margin in response to small differences in the rate of return, the liabilities of the NFI at the opposite end may be less influenced by differences in the rate of return, because it is difficult to find substitutes for the services, such as life insurance claims and pension claims, which are attached to the liabilities. The liabilities of some financial intermediaries may be closer substitutes for durable goods than for money.

On the asset side, the NFI may be classified according to the liquidity of their assets or the specialization of their asset portfolio. In general, the NFI will be less liquid than commercial banks (with notable exceptions), and their asset portfolios will generally be more specialized.

It is also logical to ask, What is the difference, from a financial point of view, between an NFI and any ordinary commercial corporation that issues securities? The difference is largely one of degree. On the liabilities side, the assets of a commercial corporation are less perfect substitutes for money, particularly with reference to the stability of their money value (again with notable exceptions); and on the asset side, there is a high degree of specialization—a commercial corporation will normally consist of only a single company with perhaps a few subsidiaries. Finally, there is a very close link between the issuance of the corporate liabilities and physical investment. Although there are many exceptions to these generalizations, collectively they serve to distinguish most commercial companies from the NFI.

[8] There is some controversy as to whether money deserves to be singled out as a unique financial asset deserving special analysis. There is an argument which maintains that all financial assets are in some sense unique; see J. M. Culbertson, "Intermediaries and Monetary Theory," and J. G. Gurley and E. S. Shaw's reply, *American Economic Review*, Vol. XLVIII, No. 1 (March 1958), pp. 119–38. An adequate discussion of this important question is not possible here.

Some important conclusions can be drawn from these commonplace observations. Financial institutions differ from one another principally in the liquidity of their liabilities and the specialization of their asset portfolios. They influence not only the amount of credit but also the kind of credit granted.

Banks in the past have tended to be singled out for special attention by the monetary authorities because they create money. In turn, it was thought that a scarcity or plenitude of money was a potent force in affecting the economic behavior of individuals and businessmen. However, the possibility exists that other types of financial asset may be sought after without increasing the demand for money. The nonfinancial intermediary public may wish to increase its holding of other assets while keeping its stock of money constant. In this latter situation, the ability of the financial system to create credit may be partially independent of the amount of central bank liabilities to the public and of the level of legal reserve requirements for commercial banks. This is a consequence of the existence of financial intermediaries which, without requiring any net addition to the liabilities of the central bank or private banks,[9] may create nonmoney financial assets that the public wishes to hold.

Importance of Nonbank Financial Intermediaries for the Conduct of Monetary Policy

How do the NFI influence the effectiveness of monetary policy? It was demonstrated above that the addition of the NFI to the financial system, or their growth relative to the banks, may increase the credit multiplier of the financial system. However, as shown in Table 1, the credit multiplier of the NFI will, for probable reserve ratios and return flows, lie close to 1. When the differential reserve effect discussed above is considered, the effect of the growth in the relative importance of the NFI on the expansion of credit is further reduced. The general conclusion that might be reached—although any specific statement depends on the magnitudes of the significant variables in each country—is that the growth of the NFI relative to the banking system increases the potential ability of the financial system to expand credit, i.e., the financial intermediary credit multiplier, but not at an alarming rate for reasonably expected values of the variables. In fact, the growth of the assets of the NFI represents, in part, a desire of the com-

[9] See J. G. Gurley and E. S. Shaw, "Financial Intermediaries and the Saving-Investment Process," *Journal of Finance*, Vol. XI, No. 2 (May 1956), pp. 261–62.

munity to hold more of its savings in the form of financial claims as the community's stock of wealth reaches higher levels and, therefore, in part, justifies a certain amount of credit expansion.

The threat that the growth of the NFI may present to the effectiveness of monetary policy lies not so much in the higher credit multiplier of the financial system that results from the more rapid secular growth of the NFI relative to the banks, but in the fact that this growth introduces an increasingly important element of credit expansion which in most countries, under present legislation, cannot be directly controlled by the monetary authorities. Even if, by restricting the amount of reserves available to the banks, the authorities are successful in preventing a rise in bank credit, a large increase in credit may still occur through a shift in deposits from the banks to the NFI. This shift will, in general, lead both to a net increase in the quantity of credit and to a shift in the distribution of credit in favor of the type in which the NFI specialize.[10]

In times of credit stringency, the NFI may be in a strong position to attract deposits from the banks to themselves by raising the rate of interest payable on their liabilities. Because of institutional and legal restrictions, the banks may not meet the higher interest rates of the NFI and as a result will lose deposits to them.[11] The NFI whose liabilities are close substitutes for bank liabilities will be more effective in diverting deposits from the banks than those, such as life insurance companies, which provide more remote substitutes.

On the other hand, the banks themselves may set up NFI to avoid the institutional and legal restrictions placed on the rate of interest they may charge, and as a result will indirectly obtain collectively the benefit of the reserve-economizing features of the NFI.[12]

The operations of the NFI may therefore threaten to diminish the

[10] The conventional instruments of monetary policy may, however, affect extensions of credit by the NFI in many respects. For example, open market operations can influence the amount of credit extended by the NFI: the NFI may purchase government securities directly if the rate of return is attractive and thereby reduce the amount of funds they have available to lend out; would-be NFI depositors may purchase government securities instead of placing deposits with the NFI; and by reducing the liquidity of the private sector, open market operations may reduce the flow of deposits to the NFI. The effectiveness of conventional instruments of monetary policy in their application to the NFI will depend on the financial structure of the country and the manner in which these instruments are utilized.

[11] This situation actually developed for a period of time in the United States and in the Union of South Africa. When the interest rate differentials between the banks and the NFI were reduced, the rate of growth of NFI deposits relative to bank deposits declined significantly.

[12] In Australia, trading banks have set up hire-purchase companies as wholly owned subsidiaries.

effectiveness of monetary policy when, by means of interest rate differentials or otherwise, they are able to induce a rapid shift of deposits from banks to themselves, thereby increasing in the short run, without regard to central bank monetary policy, the amount of outstanding credit. The effects of the long-run secular growth of the NFI relative to the banking system which results in a higher financial intermediary multiplier can, however, be offset, if it is desired, by lowering the rate of growth of the liabilities of the central bank. For the purposes of countercyclical monetary policy, it is *changes* in the rate of growth of the NFI relative to the banking system that are most relevant.[13] This change in rates of growth has, for purposes of simplicity, been analyzed in terms of a shift in deposits from banks to NFI. If NFI growth rates are stable, the central bank can offset the effects of their operations relatively easily, although it may mean that this is done by retarding the rate of growth of the banks more than that of the NFI.

To counteract the expansion of credit resulting from short-run shifts in deposits from banks to the NFI (or the acceleration of the growth of NFI relative to the banks), the central bank can only further reduce the amount of bank credit outstanding. Under existing legislation, it cannot directly affect the credit outstanding of the NFI. This credit contraction is in addition to any credit restriction already induced by the reserve ratio differential effect of a shift of time deposits to demand deposits in the banks resulting from the shifts of deposits to the NFI. The change in the distribution of credit in favor of the types granted by the NFI may, or may not, be desirable from the point of view of the over-all economic policy being followed. The fact that the quantity of credit granted by financial intermediaries may have to be controlled by regulating the quantity of credit of the banking system alone has disturbed some individuals. However, in a growing economy this need not, in the long run, work hardship on any individual bank. It may mean that in a boom the banking system will expand less than other financial institutions; the question whether this is equitable or not raises diverse issues which cannot be discussed here. However, the larger the growth of the NFI relative to the banking system, the more burdensome will become the adjustments that the banking system will

[13] Some idea of the magnitude of the differences that are possible between the long-run and the short-run growth rates of the NFI relative to the banks can be obtained by comparing the percentage rates of growth in the United States of the financial assets of commercial banks and of insurance companies during the period 1955–57, a period of expansion and monetary restraint, and during the longer period, 1949–57. In the former period, the insurance companies' percentage rate of growth was 3.6 times that of the banks, while in the latter period it was only 3.2 times. A similar comparison between the rates of growth of savings institutions and of commercial banks gives corresponding figures of 5.2 and 4.4.

have to bear in order to achieve any given degree of monetary restraint.

The final consideration, which used to be regarded as all-important, is that the NFI do not create money and that their ability to extend credit may be limited by the reluctance of individuals to permit further transfers of bank deposits or hoards to the NFI which would reduce their holdings of money assets. Except possibly for institutions, such as savings and loan associations, that accept time deposits, the liabilities of the NFI are imperfect substitutes for the liabilities created by the banking system, and there are limits to the amount of transfers of deposits which will take place in response to moderate interest rate differentials. The upper limit on the rate of interest that the NFI may charge is ultimately determined by the rate of return on new investment.

Some of the assets associated with the operations of the NFI may be closer substitutes for durable goods than for money, e.g., life insurance may be purchased instead of an automobile on hire purchase, and the presence of the NFI may stimulate a higher rate of saving by the community. In such a situation, some credit expansion is justified, and the monetary authority need only consider whether, in view of the over-all economic policy being followed, the expansion is excessive or of an undesirable type.

Some Proposals to Regulate Nonbank Financial Intermediaries

Several countries are giving serious consideration to the advisability of prescribing some type of regulation for the control of NFI. For those institutions which accept deposits from the public, minimum reserve requirements are the most commonly considered type of regulation.

The results of a minimum reserve requirement for NFI differ considerably according to whether their reserves are allowed to be held with the private banks or are required to be maintained with the central bank. If the former alternative is adopted, the imposition of reserve requirements will not, as explained in an earlier section, cause the total deposits of the banking system to decline. However, the ratio of the banks' time deposits to demand deposits would probably decline, though the decline might be checked if the NFI were allowed to include time deposits as part of their reserves.

The prescription of a minimum reserve ratio for the NFI, unless the ratio is set very low, would require some increase in the actual reserve ratio of the NFI since those institutions generally operate with reserves

that are close to minimum transaction balances. A rise in their reserve requirements would lower their loan potential through the direct effect of sterilizing part of their deposits as reserves and lowering their credit multiplier. Loans and investments of the NFI, in general, would fall by almost the same amount as the increase in reserve requirements, since, as may readily be seen from Table 1, their credit multiplier will change by only a small amount for all except very large changes in their reserve ratio or very large return flows. The rise in reserve requirements might reduce the earnings of the NFI to a point where they would be forced to lower the rate of interest paid on their deposits, and this would reduce their ability to attract deposits.

If the reserves of the NFI were required to be deposited with the central bank, the effect on the NFI initially would be the same as if they were required to be deposited with the private banks. However, the reserves of the banking system would be reduced, with a consequent contraction of bank credit by some multiple of the contraction in reserves, and this might affect the amount of deposits shifted to the NFI and cause a reduction in both bank credit and NFI credit. In fact, it is quite possible under these circumstances that an increase in the reserve requirements of the NFI might compel a contraction of bank loans and investments which was greater than the contraction of the loans and investments of the NFI. The net result of requiring NFI to deposit their reserves with the central bank would then be to shift a large part of the burden of the contraction of credit to the banking system. Furthermore, there is the extreme case where, in a time of credit stringency, restrictions are placed on the rate of interest that the banks may charge. The tightness of credit might then raise the market rate of interest and enable the NFI to increase their interest rates for deposits and thus to attract new deposits. These new deposits might be enough to offset the rise in reserve requirements so that the entire burden of adjustment would be shifted to the banks.

Another proposal that has been made is to create a special central bank for the NFI in which they would be required to hold reserves. The direct effect on the lending capacity of the NFI and the banks would be the same as if the NFI were required to hold reserves with the central bank. The indirect effects would depend on whether the special central bank sterilized the reserve funds deposited with it or used them to extend credit and engage in other activities that might be assigned to it. If the special central bank performs other central bank functions, such as that of being a lender of last resort or discounting, its establishment would introduce another element of potential credit expansion into the financial system. The creation of a new lender of

last resort would enhance the liquidity of all NFI and might permit them to hold smaller "excess" reserves than would otherwise have been the case. The enhanced liquidity of the NFI might also cause the public to regard the liabilities of the NFI as better substitutes for money and might increase the ease with which the NFI could attract deposits from banks and hoards. More important, however, by lending to the NFI, the special central bank would provide them with assets which would give them means to expand their credit, though the reserve ratio for the NFI would provide some control over their extension of credit. A full evaluation of this proposal would require an analysis of the types of credit that the NFI would extend if their assets and general liquidity were increased and of other questions that cannot be considered here.

Conclusions

Any reserve requirement for the NFI that would require them to maintain their reserves with the central bank or with a special bank for NFI would have important secondary effects on the banking system. If the NFI were permitted to deposit their reserves with the private banking system, they could be regulated independently of the banks. The reserve requirements imposed upon the NFI would then restrain their expansion, while the reserve requirements imposed upon the banks and other measures would restrain the expansion of the banks. It is possible, however, that the pattern of contraction or expansion that would be induced by deposits of NFI reserves with the central bank would be considered desirable, and that this type of requirement would be favored by the authorities on the ground that it would provide a means—similar to central bank open market sales of securities—of curtailing bank credit.

An important point which this analysis makes clear is that, where either the loan rate of interest of the banks differs from the rate that would be established in a free market, or the rate of interest payable by the banks on deposits is controlled, it is not sufficient merely to prescribe legal reserve requirements. The possibility of large interest differentials between NFI and banks makes the financial system vulnerable to large shifts in deposits from banks to NFI with a consequent expansion in total credit. It is this possibility which constitutes a greater threat to the effectiveness of monetary policy than the secular increase in the financial intermediary credit multiplier resulting from the relative growth of NFI.

If the monetary authorities are to obtain the same degree of con-

trol over credit expansion by the NFI as they have over the banks, it would be necessary to impose restraints similar to those placed, either by law or by custom, on the loan and deposit rates of interest of banks. In fact, in some countries, if equivalent restraints on interest rates were placed on the NFI, the danger of sudden shifts in deposits would be removed and the case for NFI reserve requirements would lose force. In addition, the narrowing of the interest rate differential might affect the secular rate of growth of the NFI. However, if the same direct control of credit that exists for the banks is desired for the NFI, reserve requirements must also be imposed.

APPENDIX

Some of the relationships described in the text may be given the following formal presentation.

I. The banking system may increase its loans and investments (y) by some multiple (m) of any increase in its reserves (x);[14]

$$y = mx \tag{1}$$

II. Similarly, as explained in an early section of this paper, NFI may increase their loans and investments (y') by some multiple (m') of a primary increase in their deposits (x').[15] A primary increase in deposits may arise either from a direct deposit of the liabilities of the central bank with NFI (x''), or through a shift of a bank deposit to NFI; it is analytically convenient to distinguish between a shift in "old" bank deposits (x''') and a shift in bank deposits arising from an expansion of bank deposits (x'''') which resulted from an increase in the reserves of the banking system. The potential amount of credit that may be extended by NFI for a given increase in primary deposits is

$$y' = m'x' = m'(x'' + x''' + x'''') \tag{2}$$

The value of the NFI credit multiplier (m') depends on the percentage of reserves that the NFI hold against their liabilities (r') and the proportion of their loans and investments that return to them as deposits (k). The amount of credit

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[14] Analogously, if the banking system is fully "loaned up," it must decrease its loans and investments by some multiple of any decline in its total reserves. The classical exposition of this process is given in C. A. Phillips, *Bank Credit* (New York, 1920), Chapter III. For a doctrinal history of the bank credit multiplier, see A. W. Marget, *The Theory of Prices* (New York, 1942), pp. 161–71. A useful extension of Phillips' original formula, with account taken of the "leakage" into currency holdings by the nonbank public, is given by P. Thompson, "Variations on a Theme by Phillips," *American Economic Review*, Vol. XLVI, No. 5 (December 1956), pp. 965–70.

[15] If fully loaned up, the NFI must also decrease their loans and investments by some multiple of any reduction of their reserves. However, the nonbanks, since they are not required to hold minimum reserves and their customary reserves are not determined by any strong tradition, may reduce their reserve ratios if their reserves fall. It is assumed here that the NFI do not change their reserve ratio. In practice, they often operate with reserves close to transactions balances.

the NFI may extend upon receiving an additional amount of primary deposits is $(1-r')x'$ of which $k(1-r')x'$ is redeposited in NFI, etc., so that[16]

$$y' = (1-r')x' + k(1-r')^2 x' + \ldots k^{n-1}(1-r')^n x' + \ldots$$

$$y' = \frac{(1-r')}{1-k(1-r')}\, x' \tag{3}$$

Therefore

$$\mathrm{m}' = \frac{(1-r')}{1-k(1-r')} \tag{3a}$$

III. The total increased amount of credit that may be extended by all financial intermediaries—including both banks and NFI—(y'') for a given increase in central bank liabilities (x^*) is simply the sum of (1) and (2):

$$y'' = mx^* + m'x' \tag{4}$$

For symmetry in terminology, a *financial intermediary credit multiplier* (m'') may be defined:

$$m'' = \frac{y''}{x^*} \tag{5}$$

IV. Another point, which because of its small quantitative significance is principally of academic interest, arises from a consideration of the time dimension of the transaction periods of the bank credit multiplier (m) and the NFI credit multiplier (m'). These multipliers are derived usually as a limiting sum of an infinite series (representing transaction periods), and in these terms it is possible that the series which has m as its limiting value will converge faster than the series which has m' as its limiting value, so that while one series has approached very close to its limiting value the other may be relatively much further away from the value.

If there is some estimate of the relative length of the transaction periods of m and m', the value of m'' may be estimated for any finite number of unit periods by using the method of difference equations.

The reason for considering this possibility is that, as soon as the banking system makes a loan, it immediately "recaptures" the loan as a demand deposit except for "leakages." However, when the NFI make a loan, the loan represents a transfer of a demand deposit in a bank to some private party and there is no reason for the NFI to expect an immediate increase in their deposits or other liabilities to the public. It is only when the proceeds of the loan have been spent and become the income of someone that the NFI may "recapture" some of the proceeds of their loan as a deposit. It is reasonable to suppose that the period which elapses before this "recapture" becomes effective is longer than that for the almost simultaneous "recapture" of deposits by the banks.

The practical significance of this fact is that, if a unit time period is employed where m approaches within a given percentage of its limiting value, m' may be a smaller percentage of its limiting value, and hence m'' will be an intermediate percentage of its limiting value. The quantitative effects will be small since, in the reasonably expected range of values for r' and k, the value of m' is close to 1 and most of the credit expansion of the NFI is achieved in the first transaction period and very little is achieved through the return flow.

V. It is now possible to compute the net change in the credit of financial intermediaries (z) resulting from a shift in a deposit from a bank to an NFI (x''). It is assumed that all NFI reserves are held as demand deposits with the banking

[16] This formula is simply a reinterpretation of Phillips' original expression for the potential credit expansion of a single bank; see C. A. Phillips, *op. cit.*, pp. 54–57, and also P. Thompson, *op. cit.*, p. 967.

system. A shift from a bank deposit to an NFI deposit is represented by a positive number, and the reverse movement by a negative number. The value of z depends on the reserve ratio of NFI (r'), the reserve ratios of the banking system against demand (r_d) and time (r_t) deposits, and the percentage of the shifted bank deposits that are time deposits (j).

The net change in the credit of financial intermediaries is the sum of the changes in bank credit and in credit extended by the NFI, i.e., of (1) and (2):

$$z = y + y' \tag{i}$$

The change in credit of the NFI, since it is assumed in the present case that $x'' = x''' = 0$, is

$$y' = m'x''' \tag{ii}$$

The change in the required reserves of the banking system (ΔR) resulting from a shift from bank deposits of individuals to demand deposits in NFI is

$$\Delta R = r_t j x''' - r_d j x''' = (r_t - r_d) j x''' \tag{iii}$$

The change in bank credit (z') resulting from a change in the amount of reserves banks must hold, on the assumption that the banking system is fully "loaned up," is

$$z' = \frac{\Delta R}{r_d} - \Delta R = \frac{\Delta R(1 - r_d)}{r_d} \tag{iv}$$

Substituting (iii) for ΔR in (iv) gives the change in bank credit resulting from a shift from bank time deposits to NFI bank demand deposits, since the NFI initially place all funds received as a result of shifts in deposits from the banks in their demand deposit accounts with the banks, and, when they make loans, they merely transfer the deposits from their demand deposits with banks to individuals' demand deposits with the banks. Therefore

$$z' = \frac{(r_t - r_d)(1 - r_d)}{r_d} j x''' = y \tag{v}$$

Substituting (ii) and (v) in (i) gives the net change in the credit of financial intermediaries brought about by a shift of deposits from banks to NFI:

$$z = \left[m' + \frac{(r_t - r_d)(1 - r_d) j}{r_d} \right] x''' \tag{6}$$

The Growth of Financial Intermediaries as a Factor in the Effectiveness of Monetary Policy

Eugene A. Birnbaum *

THE REVIVAL of monetary policy to control the forces of inflation and deflation has focused attention on the role of nonbank financial intermediaries as a factor influencing the effectiveness of the existing instruments of monetary control. In some quarters in the United States, the need for further factual information regarding the intricate structure and development of financial institutions over the past 40 years has been emphasized. Allan Sproul, formerly President of the Federal Reserve Bank of New York, suggested the appointment of a Presidential Commission to conduct a "broad national inquiry" into this question which might serve later as a basis for appropriate legislation.[1] The Committee for Economic Development (CED) subsequently announced the formation of a National Commission on Money and Credit to undertake an extensive examination of U.S. monetary and credit institutions. It is expected that the Commission will, among other things, investigate ". . . whether the growth of non-bank financial intermediaries, both private (such as savings and loan associations, finance companies and insurance companies) and public (such as the Federal National Mortgage Association), has impaired the effectiveness of Federal Reserve action to promote economic stability." [2]

In other quarters, the growth of nonbank financial intermediaries is said already to have largely destroyed the effectiveness of the existing instruments of monetary control. For example, the *Bulletin* of April 23, 1956 of the Institute of International Finance pointed to

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[1] See his address before the New Jersey Bankers Association, Atlantic City, May 24, 1956, reprinted in *The Commercial and Financial Chronicle* (New York), May 31, 1956, pp. 7 ff.

[2] From an address by Donald K. David, Chairman, Committee for Economic Development, Washington, D.C., November 21, 1957. The address has been published by the CED in a pamphlet, *Announcement of a National Commission on Money and Credit*.

the "great" change in the U.S. money market that has occurred over the past two decades, "sweeping changes" in the capital market in which "institutional investors play a much more important role than ever before," and other factors which make ". . . evident that the methods employed by the Federal Reserve authorities during the 1920's and the 1930's are not suitable at the present time, when the money and capital markets and general economic conditions are so different from those formerly prevailing."[3] It was also stated that "recent developments in the capital market indicate that the credit policies of the Reserve authorities are today less effective than in the past because of the increased importance of institutional investors, notably insurance companies."[4] In an article published in this issue of *Staff Papers*, Thorn stresses the threat to the effectiveness of monetary policy which is said to arise in connection with the ability of nonbank financial intermediaries to expand credit in the short run, immune from direct central bank control.

The importance of the activities of nonbank financial intermediaries in the United States was also stressed in an article by Gurley and Shaw which concluded that changes in interest rates are best explained when account is taken not only of the monetary system but also of the role of nonbank financial intermediaries.[5]

The primary purpose of the present study is to determine, on the basis of available statistical evidence,[6] whether the growth of nonbank financial intermediaries has narrowed the scope for effective monetary control by the Federal Reserve authorities. The study is directed to the situation in the United States, since essential information on other countries is lacking. However, the final part of the paper provides a glimpse of some of the relevant financial developments in the United Kingdom, Germany, and the Netherlands.

The analysis is focused on one of the important factors that would have to be considered in determining an answer to the question whether

[3] *A New Approach to Credit Control* (Bulletin No. 196, April 23, 1956, The School of Business of New York University, Institute of International Finance), pp. 6–7.

[4] Institute of International Finance, Bulletin No. 198, September 24, 1956, p. 13.

[5] John G. Gurley and Edward S. Shaw, "Financial Intermediaries and the Saving-Investment Process," *The Journal of Finance*, Vol. XI, No. 2 (May 1956). See also "Financial Aspects of Economic Development," by these authors, originally published in the *American Economic Review* (September 1955), and reprinted by The Brookings Institution (Reprint No. 8, October 1955).

[6] The basic source of data for the United States is Raymond W. Goldsmith, *Financial Intermediaries in the American Economy Since 1900* (National Bureau of Economic Research, Princeton University Press, Princeton, N.J., 1958), 415 pp. The author and publisher have kindly given permission for the extensive use of this important book as a source of information for this paper.

the powers of the Federal Reserve would have to be increased to compensate for any loss presumed to have been a consequence of the growth of nonbank financial intermediaries. No attempt is made to examine whether these powers ought to be increased on other grounds. Nor is this paper concerned with the question whether it is "fair" or equitable for the member banks of the Federal Reserve System to bear more of the "burden" of monetary control than is borne by other financial intermediaries.

Financial Intermediaries in the United States

Definitions and functions

The institutions referred to as "financial intermediaries" in this study exclude some important components of the financial intermediaries sector of the U.S. economy, viz., Federal Reserve Banks, Federal Government trust funds, and Federal Government lending institutions. With these exceptions, "financial intermediaries" are defined as including banks and all kinds of insurance agency, as well as such institutions as savings and loan associations, credit unions, personal and sales finance companies, pension funds, personal trust departments, and even security brokers and dealers (where available data permit).[7] Obviously, certain types of financial intermediary cannot be included, because no adequate information about them is available, e.g., unincorporated financial groups, such as a stock market investing pool of the resources of several individuals. Such omissions are probably of minor importance.

The reason for excluding the Federal Reserve Banks is that we wish to observe data which measure the impact of Federal Reserve policies on other financial intermediaries. If the Federal Reserve Banks were included in the totals for intermediaries, many of the effects of their actions on other intermediaries would not be apparent; e.g., Reserve Bank purchases of government securities from other intermediaries would not appear in the record of total holdings of government securities by the financial intermediaries sector, inclusive of Reserve Banks.

Federal Government trust funds are excluded primarily for conceptual reasons. These funds are mainly social security accounts; they come from tax receipts, a source quite different from that of other intermediaries. Also, the fact that their monies are "lent" to the Gov-

[7] For a listing of institutions, see Goldsmith, *op. cit.*, pp. 73–74.

ernment is a legal technicality rather than an economic fact. Their operations, as both receivers and lenders of funds, are not influenced by market forces in the same way that the operations of other financial intermediaries are influenced; hence, their inclusion in the financial intermediaries sector would have a distorting effect.[8] For similar reasons, government lending institutions are also excluded from the scope of the financial intermediaries sector as defined in this paper.

Relative growth

Member banks of the Federal Reserve System are subject to the control of Federal Reserve authorities more directly than other financial intermediaries, and if the operations of member banks grow relative to other financial operations, this may be a factor which strengthens the position of the Federal Reserve authorities. All financial intermediaries are, of course, subject to Federal Reserve influence in varying degrees, and the relative growth of the main types of intermediary is an indication of the way in which Federal Reserve influence may have changed through time. The relative growth of financial intermediaries, as measured by the percentage distribution of total assets held by all[9] intermediaries at the end of selected years from 1900 to 1952, is indicated by Chart 1.

The chart shows that from 1900 to the beginning of World War II the commercial banks did not maintain their position relative to other intermediaries as measured by their share in the total assets held by intermediaries as a whole. While the proportion of assets held by commercial banks declined from 53 per cent of the total in 1900 to 39 per cent at the end of 1939, the proportion for insurance companies increased from 12 per cent to 22 per cent.

This decline in the relative position of commercial banks was, as is generally known, reversed during World War II. It appears evident, however, that the reversal was only temporary, since in the postwar period the relative decline of commercial banks has been resumed. The postwar decline of the commercial banks' position has also been accompanied by a decline in the position of personal trust departments, whose relative importance as holders of assets had increased in the earlier period (1900–1939).[10] The relative gain of assets taken up by

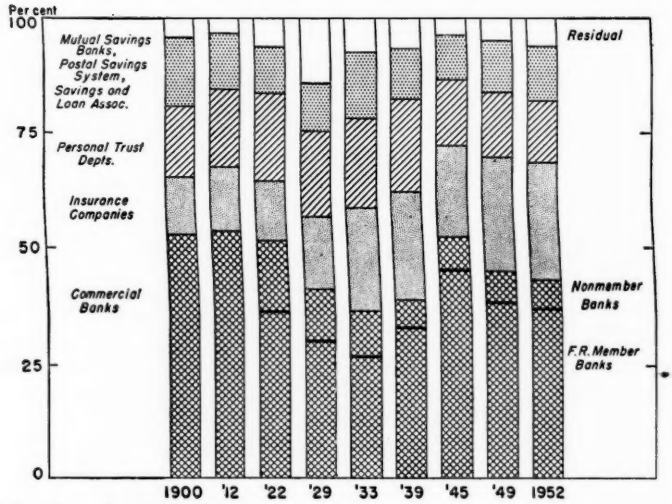
[8] However, it is recognized that social security funds are somewhat competitive with other financial intermediaries since, if there were no social security funds, more savings would be channeled to the other financial intermediaries. Presumably, such intermediaries as life insurance funds sustain most of this loss of savings. The actual extent of the loss is, of course, not ascertainable.

[9] As previously defined, i.e., exclusive of Federal Reserve Banks. etc.

[10] In an earlier work, *A Study of Savings in the United States* (3 vols.; Prince-

the nonbank financial intermediaries in the postwar period appears to have been shared more evenly among the various types of intermediary than the gain from 1900 to 1939, so that the expansion of insurance companies was less rapid than it had been in the earlier period. This undoubtedly is in large part attributable to the rapid expansion in this period of Federal Government insurance and social security programs, which, as previously mentioned, are omitted from these data.

CHART 1. PERCENTAGE DISTRIBUTION OF TOTAL ASSETS OF FINANCIAL INTERMEDIARIES IN THE UNITED STATES [1]

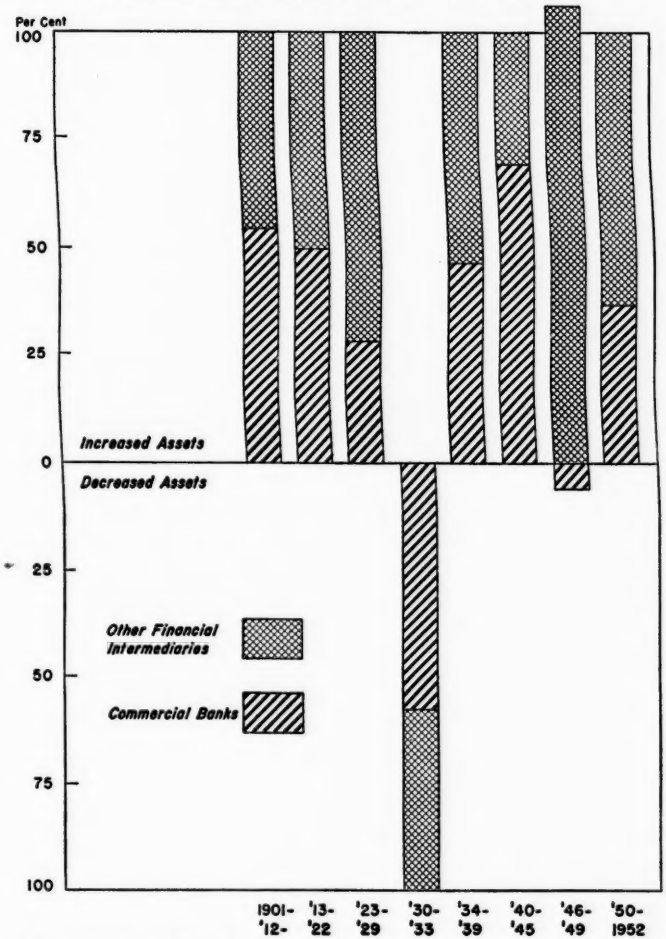


[1] Based on data in Table 9.

Chart 2, which shows the shares of the commercial banks and of the noncommercial bank intermediaries in the changes in the total assets of intermediaries between the benchmark dates of Chart 1, illustrates more sharply the decline during this period of the commercial banks' relative position among financial intermediaries. In each subperiod, the ratio of the change in commercial banks' assets to the change in the assets of all financial intermediaries is less than the ratio of total

ton University Press, Princeton, N.J., 1955–56), Goldsmith did not include the personal trust departments (of banks, etc.) as financial intermediaries. This is changed in his more recent book, *Financial Intermediaries in the American Economy Since 1900*, and the new practice of including them in the intermediaries sector is adopted in this paper.

CHART 2. PERCENTAGE DISTRIBUTION OF CHANGES IN TOTAL ASSETS HELD BY FINANCIAL INTERMEDIARIES IN THE UNITED STATES [1]



[1] Based on data in Table 10.

commercial banks' assets to the total assets of all intermediaries. This, of course, is merely an additional demonstration of the proportional decline shown in Chart 1 of commercial banks' assets relative to the total assets of intermediaries. Chart 2, however, shows more clearly the rapid decline of the banks and the corresponding growth of other intermediaries; for example, in 1946–49 the noncommercial bank intermediaries were responsible for the entire net increase of assets held by intermediaries as a whole, and the assets of the commercial banks actually declined.

The facts presented in Charts 1 and 2 generally substantiate the claim that in the first half of this century noncommercial bank intermediaries have grown at a more rapid rate than commercial banks. This has often been cited as evidence that the over-all influence of the Federal Reserve System has declined, since the proportion of financial intermediaries over which the Reserve authorities have direct control has declined. However, the relative decline of commercial banks (i.e., members of the Federal Reserve System) may be a necessary but certainly is not a sufficient condition for proving the case that Federal Reserve authorities are less effective than formerly. The member banks constitute only that component of the financial intermediaries sector which is most subject to the direct control of the Reserve authorities, exercised through such weapons as the discount rate, moral suasion, and variable reserve requirements. And while it is true that certain instruments of monetary control most directly affect the member banks of the Federal Reserve System, the Reserve authorities have another instrument of much broader scope, viz., open market operations, which may be used to influence the activities of other financial intermediaries as well as those of member banks. Moreover, other important aspects of the situation have to be examined before it can be determined whether the relative growth of the "uncontrolled" [11] segment of the financial intermediaries sector has diminished the effective influence of the Federal Reserve authorities.

Changing Scope for Open Market Operations

Prior to the establishment of the Federal Reserve System in 1913, banks were required by law to hold gold or cash reserves equal to specified percentages of their liabilities. The inflexibility of the required reserve ratio, coupled with the absence of a central bank to act as a lender of last resort, helped to generate severe monetary crises at times

[11] The term "uncontrolled" is intended only as a shorthand method of referring to all financial intermediaries other than the member banks of the Federal Reserve System, and is not to be interpreted literally.

when the ability of the banks to expand credit was completely exhausted. The Federal Reserve System was established to remedy this situation. At that time, it was generally believed that the gold standard mechanism could safely be permitted to be the prime regulator of the volume of money and of bank credit in accordance with "automatic" balance of payments forces.[12]

During the first 15 years of the Federal Reserve System, open market operations were practically unknown; member bank borrowings from the Federal Reserve Banks were substantial and constituted the main source of member bank reserves. Under these circumstances, one of the most effective instruments for credit control at the disposal of the Federal Reserve authorities was the power to vary the discount rate. Early drafts of the Federal Reserve Act "recognized open market operations in the classical British view of central banking as being a valuable means of making the bank rate effective."[13] It was foreseen that at times the member banks would not require discounts and that it might be necessary for a Reserve Bank to sell securities for the purpose of making the rediscount rate effective.

Aside from some occasional open market operations that involved transactions in municipal and government bonds and bankers' acceptances, there was no broad use of these operations until the 1930's. The growth of government securities relative to total intangible assets probably contributed significantly to the gradual recognition of the potential effectiveness of open market operations. But it was not until World War I that the volume of government securities in circulation became a significant component of the total outstanding intangibles; the proportion of total intangible assets represented by government securities increased from less than 1 per cent in 1912 to 7 per cent in 1923. After 1923 this proportion declined and by the end of 1929 was down to 3 per cent.[14]

In the meantime, however, the experience of the 1920's led the Federal Reserve authorities to shift more and more to the idea that ". . . the central bank should seek to influence business on its own initiative, instead of waiting passively for the member banks to apply for addi-

[12] See Eugene A. Birnbaum, "The Cost of a Foreign Exchange Standard or of the Use of a Foreign Currency as the Circulating Medium," *Staff Papers*, Vol. V (1956–57), pp. 477–91, for a discussion of the impact of balance of payments forces on the economies of countries operating under a gold (type) standard.

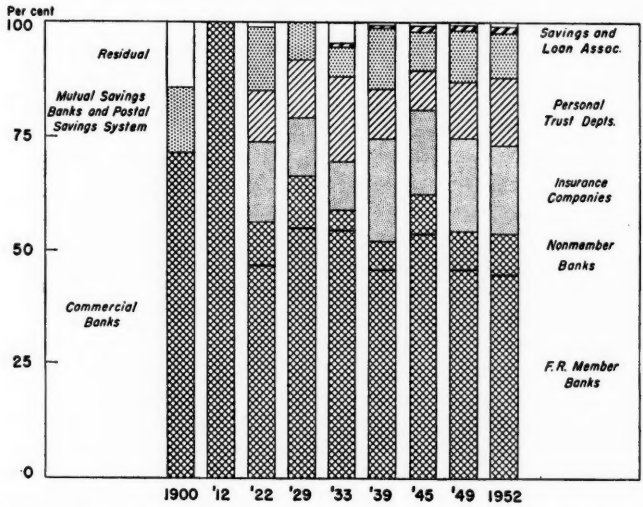
[13] H. Parker Willis, *The Theory and Practice of Central Banking* (New York, 1936), pp. 183–84, cited in *Federal Reserve Reexamined* (New York Clearing House Association, 1953), p. 56.

[14] These figures were computed from data published in Goldsmith's *A Study of Savings, op. cit.*, Vol. III, p. 60.

tional reserves. . . . By the end of the 1920's . . . open market operations had become a major instrument of Federal Reserve policy."[15]

The wide acceptance by the vast majority of financial intermediaries of government securities as an asset to hold is illustrated by the fact that, since the establishment of the Federal Reserve System, more than half of the total government securities held by financial intermediaries were in the hands of intermediaries other than member banks on four of the seven dates covered in Chart 3.

CHART 3. PERCENTAGE DISTRIBUTION OF U.S. GOVERNMENT SECURITIES HELD BY FINANCIAL INTERMEDIARIES IN THE UNITED STATES[1]

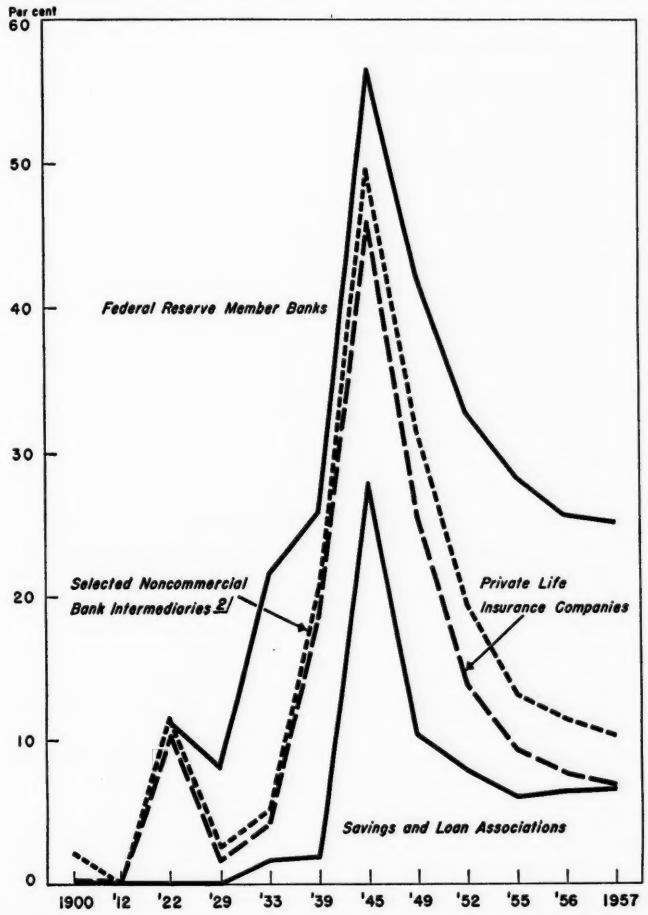


[1] Based on data in Table 11.

The growth in the relative importance of government securities, as measured by their share of total assets held by financial intermediaries, is shown in Chart 4. For financial intermediaries as a whole, the ratio

[15] E. Sherman Adams, *Monetary Management* (New York, 1950), p. 13. E. A. Goldenweiser puts the point of departure from tradition as in 1922, when ". . . discounts of the Reserve Banks [were] at a relatively low level and their reserve ratio [was] well above the required minimum. . . . It was at this time that open market operations as a supplement to discount rates became a recognized part of Federal Reserve System policy." See "Instruments of Federal Reserve Policy," *Banking Studies* (Board of Governors of the Federal Reserve System, Washington, August 1941), p. 397.

CHART 4. GOVERNMENT OBLIGATIONS AS PERCENTAGE OF TOTAL ASSETS HELD BY VARIOUS TYPES OF FINANCIAL INTERMEDIARIES IN THE UNITED STATES [1]



[1] Based on data in Table 12. Horizontal scale indicates benchmark dates, not equal time intervals.

[2] Private life insurance companies, savings and loan associations, mutual savings banks, and postal savings system.

of claims on the Government to total assets increased from a low of 2 per cent in 1912 to a high of 49 per cent by the end of 1945. This ratio has, however, been higher for banks than for other financial intermediaries.

The data show that most of the "uncontrolled" intermediaries held no government securities at all in 1900 and 1912, and that 1933 is the first year for which holdings by savings and loan associations appear. However, the growth of the importance of holdings of government securities is a common characteristic of all financial intermediaries from 1929 through 1945; even after the postwar decline, these holdings have continued to be significant for nearly all intermediaries.

The ratios of government securities to the total asset portfolios of intermediaries, shown in Chart 4, reveal some interesting tendencies in the behavior of intermediaries in periods of wide economic fluctuation. From 1922 to the end of the 1929 boom, the decline in the ratio was much less for the member banks than for the nonbank intermediaries; and during the recovery from 1933 through 1939, the ratio increased much less for the banks than for the nonbank intermediaries. In the 1939–45 period of war finance, the ratio increased slightly more for the banks; from the end of the war, "uncontrolled" intermediaries, in general, shifted out of government securities much more rapidly than the banks. These facts suggest that the member banks were more responsive to Federal Reserve policy than were the "uncontrolled" intermediaries. Indeed, in all the subperiods covered in the chart, with the exception of 1929 through 1933, the member banks seem to have acted in accordance with the requirements of a countercyclical monetary policy more closely than the nonbank intermediaries.

Thus it appears that the control of the monetary authorities has generally been more effective when it has been applied to the member banks. The fact that the period from 1929 through 1933 was an exception to this general rule is very likely explained by the severe financial crisis during those years; the banking reforms of the early 1930's have probably eliminated any possibility of a recurrence of a similar financial crisis.

The evidence that "uncontrolled" intermediaries have been less responsive than member banks to the general requirements of monetary policy does not necessarily imply that the potential effectiveness of monetary policy has been weakened by the more rapid growth of these intermediaries. Undoubtedly, the evidence is largely a result of the failure of the monetary authorities to exploit the growing power of open market operations as an instrument of control, e.g., during the extended period in which the Federal Reserve System was pegging the

interest rate, and especially in the period of war finance which spilled over into the postwar period.

Contribution of "uncontrolled" intermediaries to strengthening of monetary policy

In assessing the implications of the growth of nonmember-bank financial intermediaries, it is of interest to investigate the maturity distribution of government debt holdings of financial intermediaries as a factor influencing the effectiveness of open market operations as an instrument of Federal Reserve control.

Data on the ownership on June 30, 1955 of interest-bearing government securities classified according to maturity (Table 1) show that

Table 1. U.S. Government Interest-Bearing Debt and Guaranteed Obligations, as of June 30, 1955, Classified According to Ownership and Maturity[1]

	Total	Within 1 Year	1–5 Years	5–10 Years	10–15 Years	Over 15 Years
			Billion Dollars			
Commercial banks	55.5	8.1	24.5	20.8	1.8	0.3
Insurance companies	10.0	0.9	2.3	4.9	1.5	0.3
Other investors[2]	62.4	24.7	14.2	14.0	6.8	2.7
All holders[2]	127.9	33.6	41.1	39.7	10.1	3.4
			Per Cent of Total			
Commercial banks	43	15	44	37	3	1
Insurance companies	8	9	23	49	15	3
Other investors[2]	49	40	23	22	11	4
All holders[2]	100	26	32	31	8	3

[1] Based on data from *Annual Report of the Secretary of the Treasury on the State of the Finances for the Fiscal Year Ended June 30, 1955* (Washington, 1956), pp. 514–15.

[2] Holdings of Federal Reserve Banks and of U.S. Government investment accounts are excluded.

at that time only 11 per cent of the total debt (held outside Federal Reserve Banks and Federal Government accounts) bore a maturity of 10 years or more, and that over two thirds of this fraction bore a maturity of less than 15 years. For commercial banks, only 4 per cent of their holdings of government securities had a maturity of 10 years or more; furthermore, nearly 60 per cent of their total holdings of these securities bore a maturity of less than 5 years. Although 18 per cent of the government securities held by insurance companies bore a maturity of over 10 years, the total of government securities of all maturities

held by the insurance companies covered in the survey [16] comprised only 8 per cent of the total government securities outstanding (i.e., in general, the total excluding holdings of Federal Reserve Banks and Federal Government accounts).

Some scattered information on the maturity distribution of the total asset portfolios of some representative groups of financial intermediaries is presented in Table 2. This table appears to indicate not only

TABLE 2. ASSET PORTFOLIO, CLASSIFIED ACCORDING TO MATURITY, OF CERTAIN FINANCIAL INTERMEDIARIES IN THE UNITED STATES[1]

(*In per cent of total portfolio for each group*)

	1900	1912	1929	1939	1952
Commercial banks					
Short-term loans	70.6	66.7	60.2	31.9	34.2
Long-term loans	7.5	10.8	12.5	10.5	11.1
Securities	21.9	22.5	27.3	57.6	54.7
Reclassification					
Short-term loans and securities	...	...	...	40.0	50.0
Long-term loans and securities	...	...	...	60.0	50.0
Private life insurance companies					
Short-term loans	11.0	14.9	15.0	12.8	4.0
Long-term loans	36.1	36.5	45.5	22.3	31.1
Securities	52.8	48.6	39.5	65.0	65.0
Savings and loan associations					
Short-term loans	8.6	4.3	4.6	1.5	1.6

[1] Based on data from Raymond W. Goldsmith, *Financial Intermediaries in the American Economy Since 1900*; see text footnote 6. Cash, tangibles, and miscellaneous assets are excluded.

that the asset position of the banks has, historically, been more liquid than that of other intermediaries, but that there also has been a tendency in recent years for the banks to increase their liquidity through investing a larger portion of their funds in short-term assets. At the same time, the insurance companies (and other nonbank intermediaries) seem to be channeling relatively more of their funds into long-term assets. However, the impossibility of further subclassifying the large securities category by maturity makes it difficult to draw any firm conclusions on this matter. Furthermore, the increasing application of government guarantees—to private mortgage indebtedness, for example—has undoubtedly changed the liquidity character of long-term asset portfolios.

[16] The survey covered approximately 95 per cent of the holdings of government securities of all banks and insurance companies.

The growth of "uncontrolled" financial intermediaries has been a factor increasing the effectiveness of open market operations to the extent that this growth has increased the average maturity of government debt. The longer the maturity of a debt, the larger will be the capital gain or loss associated with any given change in the interest rate. The longer the average maturity of debt holdings, the larger will be the fall in the capital value of government security holdings produced by any increase in the interest rate, and, therefore, the larger the reduction of the total potential amount that might be disposed of by selling government securities in order to finance credit extension to the private sector, and the greater the effectiveness of Federal Reserve policy in using a higher interest rate as an instrument for discouraging financial intermediaries from shifting out of government securities into claims on the private sector. Figures showing how the hypothetical destruction of capital would vary in accordance with the maturity distribution of government debt holdings when the interest rate is increased from 3 per cent to 4 per cent per annum illustrate this point, the loss being recorded as a percentage of the total principal value which existed when the interest rate was 3 per cent:

Years to maturity	¼	½	1	5	7½	10	15	25	∞
Proportion of capital destroyed (per cent)	0.25	0.49	0.97	4.49	6.42	8.18	11.20	15.71	25.00

In the limit (i.e., for a security issued in perpetuity), the proportion of capital destroyed through raising the interest rate by one third (e.g., from 3 per cent to 4 per cent per annum) would be 25 per cent. But the U.S. Government has never issued a perpetual security. Furthermore, the data in Table 1 have already shown that only 11 per cent of the government securities outstanding (as defined) on June 30, 1955 bore a maturity of 10 years or more and that only a relatively small amount of these had a maturity longer than 15 years.

The hypothetical destruction of capital which bears a 10-year life is much less than that for a perpetuity, viz., only 8.18 per cent against 25 per cent. In view of the fact that a large (albeit unknown) proportion of the government long-term securities held by financial intermediaries are doubtless, in accordance with individual diversification requirements, considered to be a "permanent" part of their asset portfolios, and hence would not be generally considered as potentially eligible for sale prior to maturity, it follows that the "capital destruction effect" of interest rate increases has probably been a negligible factor with respect to the effectiveness of Federal Reserve open market operations. However, to the extent that the existence of "uncontrolled" intermediaries may have promoted a lengthening of the average ma-

turity of debt, these institutions have helped to strengthen the Federal Reserve System.

It has also been claimed that the anti-inflationary operations of the Open Market Committee are strengthened by the so-called "locking-in" effect on the asset portfolios of financial intermediaries. This effect is based on the notion that financial intermediaries are often reluctant to unload a previously acquired asset at a price below that of the original purchase, irrespective of whether more attractive assets are currently available, in order to avoid the necessity of showing a realized capital loss on the firm's books. Such a capital loss need never be realized on any asset whose original purchase price is equal to or less than its principal value at redemption, provided that the firm continues to hold the asset until maturity, or until such time as its market price might return to that of the original purchase. This factor, also, would be more important for those lending institutions which hold a large volume of long-term government securities than for those which hold predominantly short-term securities.

Irrespective of whether they are held to maturity or sold, the capital loss associated with a price decline of assets held in portfolios can never be recouped. This is not intended to imply that under all conceivable circumstances a firm's best interest, and perhaps even the best interest of its clientele, would not be served by holding to maturity, just in order to avoid showing a loss on the books, any assets whose prices have fallen. (Undoubtedly, if anyone benefits it is the firm's management; with the growing separation of management and ownership functions, this point might have considerable importance.) However, if the "psychological impact" of revealing a loss is neglected, any firm which operates at all times in such a way as to maximize profits will decide whether to shift out of government securities into other claims solely on the basis of which claim is relatively the more attractive or profitable, i.e., without regard to the effect of current price changes on the book valuation of previously acquired assets.[17]

In addition, the current provisions of the tax law permit banks to

[17] See, in this connection, Paul A. Samuelson, "The Effect of Interest Rate Increases on the Banking System," *American Economic Review*, Vol. XXXV (March 1945), pp. 16–27. As an illustration of a similar point, Samuelson offers the case of a hypothetical investment manager (treasurer) of "Siwash" University who has just bought bonds: "If, on the morrow, an angel came to Siwash and asked the treasurer whether he wished rates of interest to rise, what would he answer? Unless he were a fool, or an ingrate who valued his own reputation for sagacity more than the welfare of his Alma Mater, he would of course answer, 'yes.' It would be but human for him to add wistfully, 'If you had only come around yesterday . . .'" (p. 17).

deduct from their ordinary taxable income the full amount of a realized net capital loss on bonds and other instruments of indebtedness. Hence, by selling bonds when bond prices are declining, the loss can be applied in full against taxable income from other operations, thereby reducing the current tax liability by 52 per cent of the capital loss. If the proceeds of the tax savings are then added to sales proceeds and together are reinvested in the same [18] or similar securities, the bank can actually increase its holdings of securities.[19]

Thus, an investment manager of a financial intermediary who acts strictly in accordance with the indications given by the so-called "locking-in" effect disregards the question whether the firm should shift out of government into private securities on the basis of which might be the more profitable asset to hold; furthermore, if he be a banker he also disregards the additional profits to which he would be legally entitled by taking advantage of the current provisions of the corporate income tax law as applied to banks. However, to the extent that the "locking-in" effect actually operates (and it apparently has some validity), it is a factor which increases the effectiveness of Federal Reserve policy.[20]

Inasmuch as the previously discussed effects may tend to strengthen the impact of open market policy and are particularly applicable to the operations of "uncontrolled" financial intermediaries, since they are inclined to hold debts of longer maturities, we are led to the conclusion that the growth of these intermediaries has been a factor which has increased the effectiveness of open market policy as an instrument of control.

[18] The law does not permit "wash sales," i.e., sale and repurchase of the same or substantially the same security within 30 days. However, this is easily avoided merely by dealing in government securities bearing slightly different maturities or by scheduling the repurchase of the same security 31 days after the initial sale.

[19] Such an operation involves a twofold profit: (1) by delaying the tax liability, it provides additional income returns on investment through the use of monies which otherwise would have been paid to the Government as corporate taxes on ordinary income; and (2) to the extent that the added returns take the form of capital gains, only a 25 per cent tax applies rather than the combined normal and surtax rate of 52 per cent, which amounts to a windfall tax saving of 27 per cent. (The net gain from tax savings on capital gains, aside from added interest returns, is equal to the initial tax saving of 52 per cent minus the subsequent capital gains tax of 25 per cent.)

[20] On the other hand, some managers of asset portfolios might conceivably take an opposite view; their psychology, for example, might suggest that the "banker should always attempt to unload his worst asset." In this case, a decline in the prices of government securities might even stimulate intermediaries to replace them with other securities.

The liquidity argument

Perhaps the most frequently offered argument regarding the significance of the maturity distribution of debt as an influence on the effectiveness of counterinflationary monetary policy is that which may be called the "liquidity" argument. Short-term government securities are close substitutes for cash and might therefore, for practical purposes, be regarded as the same thing as cash. Since cash forms the basis of credit expansion, the larger the holdings of money, including "near money," the more difficult it is to prevent an excessive credit expansion by applying the instruments of monetary control. The vast accumulation of short-term government securities in the wake of war finance is therefore regarded as a unique source of potential inflation in the postwar period in the face of pent-up private demand for loanable funds.

The importance of this argument has been exaggerated, and it can be misleading. The general problem facing monetary authorities in the aftermath of an extended period of inflationary war finance is basically the same, regardless of whether the assets which have accumulated in the hands of financial intermediaries are predominantly short-term or predominantly long-term. The potential inflation stems from the existence of too many low-yielding government securities in circulation, be they long-term or short-term. Furthermore, the accumulation of assets in the form of claims on the Government is evidence of the wartime squeezing-out of private enterprise. With the removal of wartime restraints, the business community quickly responds in its attempt to profit from continuing shortages, and financial intermediaries are, of course, eager to provide the necessary credit, both because business obligations (and residential mortgages, etc.) provide a higher rate of return than government securities, and also, to some extent, because the intermediaries wish to diversify their asset holdings, i.e., to rid themselves of the excessive volume of government securities that they have accumulated.

If it is assumed, in the interests of simplicity, that the Government is neutral in an inflationary (postwar) period, the monetary authorities are confronted with a constant supply of government securities on which to operate, and it should make no fundamental difference whether the supply is primarily short-term or long-term. The problem would be, in any event, the same, viz., to slow the expansion of credit to the private sector. One important way of accomplishing this is by making government securities competitive with private obligations in terms of their rate of return. Thus, the Open Market Committee might reduce the

price of government securities, be they short-term or long-term, to the extent required, to make them more attractive than other securities so that the shift from government to other securities would occur only at the rate which the monetary authorities desired.

If it so happens that financial intermediaries have a large portfolio of long-term government securities, this could have serious repercussions on their profits. If, on the other hand, they had correctly foreseen what was coming, and had therefore decided to hold a quantity of short-term securities large enough to protect them against future declining prices, they would be in a much more fortunate position during the ensuing period of greater returns on loanable funds. To the manager of an individual financial firm, the question whether to buy short-term securities (or hold cash) now, and thereby to take a smaller return on investments than is currently available from long-term securities, in order to invest in long terms later when it is expected that interest rates will be higher, is a serious and real dilemma.[21]

This dilemma is, however, basically irrelevant to the situation confronting the monetary authorities (neglecting welfare implications). The problem remains that of raising to the desired degree yields on government securities relative to other securities. If the authorities succeed (through open market operations, for example) in inducing the holders of government securities, either short-term or long-term, to continue to hold them, the inflationary potential arising from the danger of shifting from government to other securities will be effectively controlled.

In brief, the introduction of open market operations has provided the Federal Reserve authorities with a powerful instrument of control. The growth of "uncontrolled" financial intermediaries relative to member banks does not appear to have materially weakened the potential effectiveness of Federal Reserve open market operations; on the contrary, the growth of "uncontrolled" intermediaries has helped promote the development of this instrument of control and probably even enhanced its effectiveness.

[21] See *Fundamentals of Investment Banking* (Investment Bankers Association of America, New York, 1949), pp. 765–66, for a lucid description of this dilemma.

Growth of Financial Intermediaries Relative to National Finance, Income, and Assets

It has been shown that the importance of financial intermediaries other than commercial banks, as measured by the relative growth of their share of the total assets held by all [22] financial intermediaries, has increased at the expense of the commercial banks. Open market operations have emerged as a potent instrument of control, the effectiveness of which has not been diminished by the growth of "uncontrolled" financial intermediaries. To some extent, indeed, the growth of "uncontrolled" intermediaries in certain directions has actually increased the effectiveness of open market operations. The final part of the analysis for the United States will investigate structural changes in the financial intermediaries sector relative to national income and national assets, since, despite the more rapid growth of "uncontrolled" intermediaries, the operations of "controlled" (member bank) financial intermediaries may have increased enough to be no less significant in relation to total economic activity than in the past.

As a first step, we may investigate the role of financial intermediaries as a source of finance. The share of financial intermediaries from 1901 through 1949 [23] in the aggregate sources of funds utilized by all other sectors of the economy is shown in Table 3. The aggregate sources of funds data are estimates of the total (combined, not consolidated) net borrowings of the nonfinancial intermediaries sectors minus their net loans; a net decrease in cash balances is counted as a source of funds and a net increase as a use of funds.[24]

In view of the importance of the Federal Government sector, Table 3 presents two sets of data, one including, and the other excluding, the Government. Since Goldsmith includes in his aggregate sources of funds data the finance provided to the Federal Government from such sources as Government trust funds and Federal Reserve Banks, the data on financial intermediaries used in the table also include the operations of these agencies and, therefore, have a wider coverage than is required by the earlier definition of financial intermediaries. The distortion thus

[22] As previously defined (pp. 386–87).

[23] The basic data are in R. W. Goldsmith, *Financial Intermediaries . . . , op. cit;* the definition of the financial intermediaries sector is that of his earlier work, *A Study of Savings . . . (op. cit.)*, and therefore is somewhat inconsistent with the definition of the scope of intermediaries used in his *Financial Intermediaries. . . .* However, Goldsmith indicates that this inconsistency does not cause important distortions.

[24] For details, see R. W. Goldsmith, *Financial Intermediaries . . . , op. cit.,* especially Chapters VII and IX.

introduced is, however, negligible for that part of Table 3 which excludes the Federal Government, inasmuch as nearly all of the credit activities of these agencies is channeled to the Federal Government.

The highly irregular nature of financial operations during the great depression of the 1930's and the rapid wartime inflation of the 1940's, and the unavoidable errors of estimation and the absence of data more up to date than those of 1949, place important limitations on the significance of the data presented in Table 3; nevertheless some interesting tendencies can be observed. From 1901 to 1930, external financing fairly consistently provided some 25 per cent of the total sources of funds of the economy exclusive of the Federal Government as a user; for the 1946–49 period, the proportion fell slightly, to 22 per cent. Whether this decline is only temporary or indicative of a trend cannot be reliably ascertained in the absence of up-to-date data.

The data also show that the relationship between external finance and total sources of funds is more irregular when the Federal Government is included. This probably results primarily from the fact that the Government's requirements for finance have been more erratic than the requirements of the private sector; in addition, the Government's financial requirements are, of course, always potentially capable of being satisfied practically at its own dictates, i.e., with little regard to existing market conditions. Because of such factors, the comparatively large postwar decline of the share of external finance in the total sources of funds of the economy including the Federal Government as a user cannot be regarded as necessarily indicative of any basic or structural change.

These observations seem generally applicable also to the relationship between external financing and total net financing,[25] except, of course, that the proportion of external financing to total net financing is larger. It appears, therefore, that external financing has continued to provide approximately the same proportion of the economy's requirements as formerly, although in periods of extreme economic fluctuation, such as the great depression and World War II, the significance of external financing has also varied widely.

Although the importance of external financing in recent years appears to have been about the same as it was earlier, the data clearly indicate that the share of external financing provided by the financial intermediaries has increased significantly. The data relating financial intermediaries to the external financing of the economy excluding the Government (line 7) show that intermediaries furnished an average of

[25] Net financing is defined as the sum of internal savings plus total external financing (Table 3, lines 2a + 3 and lines 10a + 11).

TABLE 3. SHARE OF FINANCIAL INTERMEDIARIES IN AGGREGATE SOURCES OF FUNDS OF ALL OTHER SECTORS OF THE U.S. ECONOMY

	1901–1912	1913–1922	1923–1929	1930–1933	1934–1939	1940–1945	1946–1949	1901–1949
	I. Excluding the Federal Government							
	Billion Dollars							
1. Total sources of funds (line 2 + line 3)	124	245	281	35	133	358	359	1,535
2. Total supplied internally	93	185	206	45	129	346	279	1,281
2a. Savings	*49*	*107*	*104*	*—24*	*31*	*236*	*178*	*682*
2b. Capital consumption allowances	*43*	*77*	*102*	*69*	*97*	*110*	*101*	*599*
3. Total external financing	31	61	75	—10	4	12	80	254
4. Supplied by financial intermediaries (change in holdings)	15	25	35	—12	1	2	50	116
	Per Cent							
5. External financing as per cent of total sources of funds (line 3 ÷ line 1)	25	25	27	—29	3	3	22	17
6. External financing as per cent of total net financing (line 3 ÷ lines 2a. + 3)	39	36	42	29[1]	11	5	31	27
7. External financing supplied by financial intermediaries (line 4 ÷ line 3)	48	41	47	120[1]	25	17	62	46
8. Total sources of funds supplied by financial intermediaries (line 4 ÷ line 1)	12	10	13	—33	1	1	14	8

	II. Including the Federal Government							
	Billion Dollars							
9. Total sources of funds (line 10 + line 11)	125	251	283	39	158	413	349	1,619
10. Total supplied internally	93	166	214	41	116	160	289	1,079
10a. Savings	*50*	*88*	*112*	*—28*	*18*	*49*	*187*	*475*
10b. Capital consumption allowances	*43*	*77*	*102*	*69*	*98*	*112*	*102*	*604*
11. Total external financing	32	86	69	—2	41	253	60	539
12. Supplied by financial intermediaries (change in holdings)	15	33	35	—4	24	156	35	295
	Per Cent							
13. External financing as per cent of total sources of funds (line 11 ÷ line 9)	26	34	24	—5	26	61	17	33
14. External financing as per cent of total net financing (line 11 ÷ lines 10a. + 11)	39	49	38	7[1]	69	84	24	53
15. External financing supplied by financial intermediaries (line 12 ÷ line 11)	46	38	51	207[1]	59	62	59	55
16. Total sources of funds supplied by financial intermediaries (line 12 ÷ line 9)	12	13	12	—10	16	38	10	18

Source: Raymond W. Goldsmith, *Financial Intermediaries in the American Economy Since 1900* (see text footnote 6), Tables 89 and 90, pp. 298–99 and 303.

[1] Both numerator and denominator are negative.

45 per cent of external finance prior to 1930, but that in the period 1946–49 their share had grown to 62 per cent. Although their share of private external financing appears to have dropped precipitously in 1934–45, a glance at the data which include the Government (line 15) shows that this merely reflects a shift from financing the private sector to financing the government sector.

The share of financial intermediaries in private external financing in 1946–49 was greater than in the pre-1930 period by 38 per cent. At the same time, however, the "controlled" intermediaries' share of the total assets of all financial intermediaries declined by only 20 per cent.[26] Hence, relative to total (private) external financing, the member banks of the Federal Reserve System had grown in importance by 1949 in spite of their decline relative to other financial intermediaries. Since external financing appears to have maintained the same general relationship to economic activity as formerly, the tentative conclusion is suggested that during the early postwar period there was, on balance, an increase in the importance of the member banks of the Federal Reserve System in relation to economic activity. This implies a further strengthening of Federal Reserve influence.

For additional evidence concerning the changing scope of "controlled" and "uncontrolled" financial intermediaries, we may compare data since 1900 on the ratios of their assets to measures of general economic activity (Table 4 and Chart 5). Since data for total noncommercial-bank intermediaries are not available after 1952, a series covering a sample of noncommercial-bank intermediaries has been included. Inasmuch as the sample series has closely paralleled the series for total noncommercial-bank intermediaries since 1933, it appears reasonable to assume that movements in the sample series have continued to be representative since 1952.

For our purposes, the most important relationship shown by these data is that between commercial bank assets (and, hence, assets of member banks of the Federal Reserve System) and the national income. Table 4 and Chart 5 show that the ratio of commercial bank assets to income generally rose from 1900 through 1933, remained high from 1933 until the conclusion of World War II, and has since been declining. By the end of 1957, the ratio had fallen to virtually the same level as at the turn of the century. The average of the ratios for 1949, 1952, 1955, and 1957 is 66 per cent; if 1945 is included, the average for the period becomes 71 per cent. The average ratio of commercial bank

[26] Based on the data in Table 9. The total commercial banks' share of assets is taken to represent the "controlled" sector, in order to provide data for the entire period of comparison.

TABLE 4. RATIOS OF ASSETS HELD BY FINANCIAL INTERMEDIARIES IN THE UNITED STATES TO U.S. NATIONAL INCOME[1]

(In per cent)

	1900	1912	1922	1929	1933	1939	1945	1949	1952	1955	1956	1957[2]
1. Total financial intermediaries	117	139	152	183	313	215	169	164	149	...	...	...
2. Federal Reserve member banks	—	—	*56*	*55*	*84*	*70*	*76*	*63*	*55*	*55*	*54*	*52*
3. Nonmember commercial banks	*62*	*74*	*23*	*21*	*31*	*14*	*12*	*11*	*10*	*10*	*7*	*9*
4. Total commercial banks	62	74	78	75	115	84	88	74	65	65	61	61
5. Insurance companies	14	19	19	27	67	48	33	40	37	...	...	...
5a. Private life insurance companies	(10)	(15)	(14)	(20)	(52)	(37)	(25)	(28)	(25)	(28)	(28)	(28)
6. Personal trust departments	19	24	30	34	62	44	25	24	21	...	...	...
7. Noncommercial banks	15	14	11	12	30	17	11	12	10	10	10	10
8. Savings and loan associations	3	3	5	8	15	7	5	7	8	12	12	13
9. Residual: 1 minus (4–8)[3]	5	5	9	26	23	14	6	8	9	...	...	...
10. Intermediaries other than Federal Reserve member banks: 1 minus 2[2]			97	128	229	144	92	101	94	...	...	...
11. Intermediaries other than commercial banks: 1 minus 4[3]	56	65	74	107	198	130	80	90	84	...	...	...
12. Selected noncommercial-bank intermediaries (private life insurance companies + noncommercial banks + savings and loan associations)	28	32	30	40	97	61	40	47	43	50	51	52

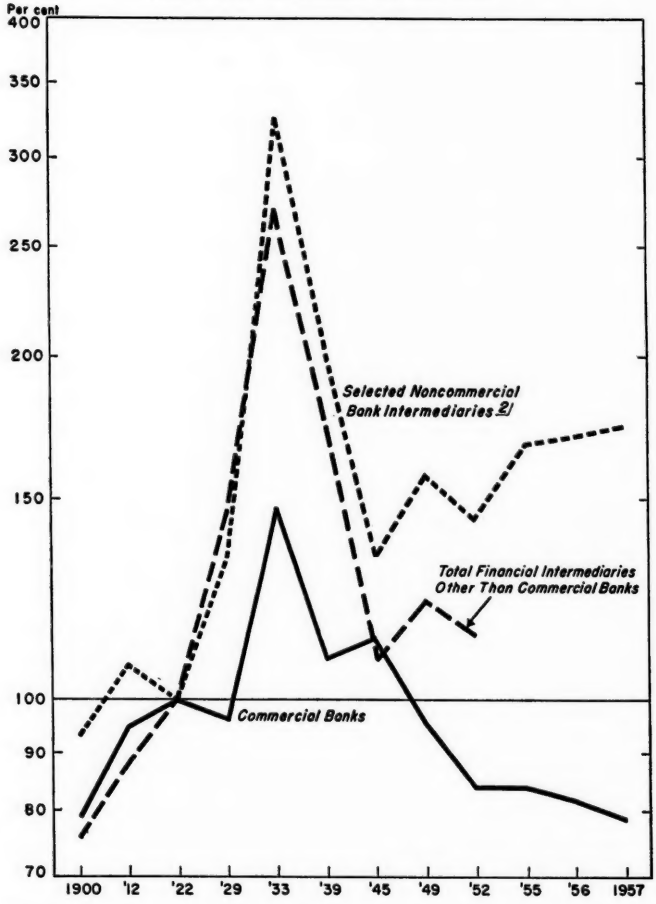
[1] Assets data are from Table 9. National income data for 1900, 1912, and 1922 are estimates of the National Industrial Conference Board, Inc., published in *National Income of the United States, 1799–1938* (New York, 1939); for 1929–57, Department of Commerce data, published in *Survey of Current Business*.

[2] Preliminary.

[3] Based on unrounded data.

CHART 5. RATIO OF ASSETS HELD BY FINANCIAL INTERMEDIARIES IN THE UNITED STATES TO U.S. NATIONAL INCOME [1]

(1922 = 100; logarithmic vertical scale)



[1] Based on data in Table 4. Horizontal scale indicates benchmark dates, not equal time intervals.

[2] Private life insurance companies, savings and loan associations, mutual savings banks, and postal savings system.

assets to national income for the pre-1930 period is 72 per cent. Hence, whether 1945 be included or excluded, the average ratio of commercial bank assets to income since World War II has not changed much from what it was prior to 1930.

In our earlier analysis of the relationship of intermediaries to external financing, it was shown that commercial banks had gained in importance in the early postwar period in comparison with the years prior to 1930. The data in Table 4 and Chart 5 appear to confirm these findings. However, as the period to be averaged since World War II is further extended, the difference between the positions of the banks in relation to income for the pre-1930 and the post-1945 periods tends to disappear. If the decline in bank assets relative to income should continue, it might eventually indicate a lessening in the importance of commercial banks to economic activity; however, the data so far give no clear indication that this has yet occurred.

On the other hand, Chart 5 clearly shows the relative gain in the growth of noncommercial-bank financial intermediaries since 1900. However, unlike their growth in relation to the financial intermediaries taken as a whole (as shown in Chart 1 and Table 9), their growth in relation to national income has been interrupted by periods of significant decline, especially in 1933–45. Furthermore, their growth rate relative to income since 1945 has been nowhere near so rapid as it was from 1900 to 1934.[27]

A further comparison of the movements of the data presented in Chart 5 shows that in five of the ten periods between the benchmark dates, ranging from December 31, 1900 to December 31, 1957, the ratio of assets held to national income for commercial banks and for noncommercial-bank financial intermediaries moved in the same direction. This merely demonstrates that the growth of "uncontrolled" intermediaries need not occur at the expense of the banks, i.e., some fraction of savings channeled to the noncommercial-bank intermediaries undoubtedly consists of basically "nonmonetary" savings. Or, put in another way, some of the savings channeled to such intermediaries as insurance companies, for example, undoubtedly would have been saved without recourse to the banking system even if the insurance companies did not exist. Thus, the growth of nonbank financial intermediaries may occur at the expense of such alternative means of savings as the direct purchase of marketable stocks and bonds, or direct investment in unincorporated enterprise, rather than at the expense of the

[27] Prior to 1934, the sample series did not cover a sufficiently large proportion of the total noncommercial-bank intermediaries to be a reliable indicator of the rate of growth of "uncontrolled" intermediaries as a whole. Therefore, the movement of the sample series can be neglected for this period.

banking system. Obviously, to the extent that savings channeled to "uncontrolled" intermediaries are basically of such a character, the growth of nonbank intermediaries would not in any sense reduce the scope of the commercial banks, and would thus not be a factor reducing the effectiveness of Federal Reserve control.

The total assets of financial intermediaries can be compared not only with data on national income, but also with figures provided by Goldsmith on total national assets and the components of this series: national intangible assets and national wealth (tangible assets, including land). Goldsmith's concept of national assets is based on a combined national balance sheet "which is simply the sum of the balance sheets of all units domiciled within the nation's boundaries, using consolidated balance sheets only for groups of parents and subsidiaries joined by majority ownership." [28] The combined balance sheet obviously duplicates some items, and in some instances, which, however, are probably unimportant, certain assets are counted even more than twice.[29]

Ratios of the total assets of financial intermediaries to total national assets and to their intangible and tangible (wealth) components, and also ratios of national income to national assets, are presented in Table 5. In Chart 6, the ratios for commercial banks and total other financial intermediaries are shown; and in section D of the chart, the ratios of national intangible assets to national wealth are shown along with a second series, derived from the data for Chart 1, which represents the ratios of the total assets of financial intermediaries other than commercial banks to the total assets of commercial banks.

Goldsmith considers the ratio of total assets of financial intermediaries to total national assets to be "the most comprehensive, and for many purposes the most significant, indicator of the position of financial intermediaries in a country's economy. . . ." [30] The data show that for the United States this ratio has tended to increase since 1900. The upward trend is shown most markedly in section C of Chart 6, which presents the ratio of assets of intermediaries to national wealth, although the tendency to increase can also be observed in the comparisons with total intangible assets (section B) and total national assets (section A). Hence, the evidence again suggests that the role of financial intermediaries in the economy on the whole increased during the

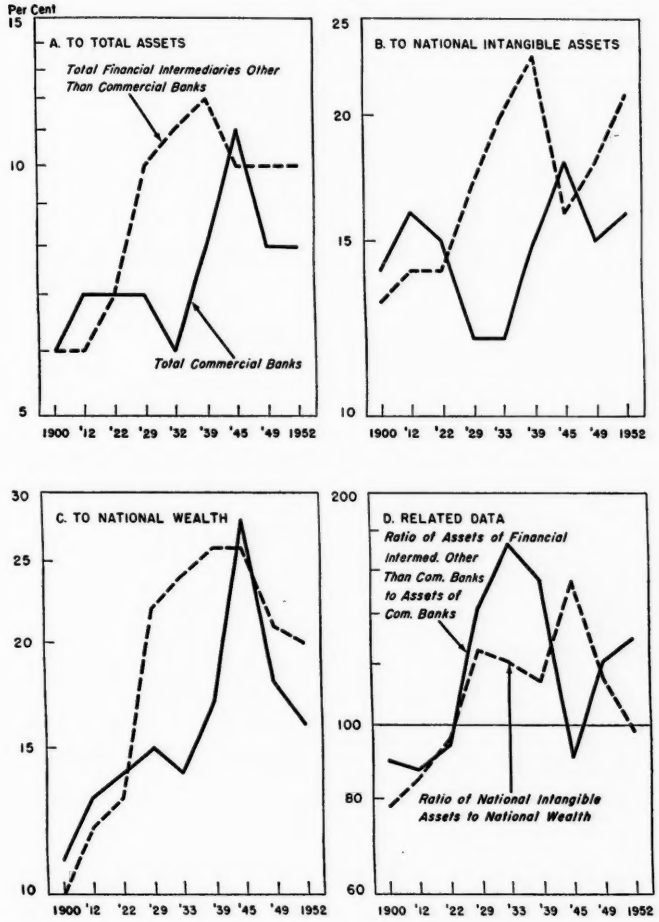
[28] R. W. Goldsmith, *Financial Intermediaries . . . , op. cit.*, p. 311.

[29] To some extent, the data presented here omit some double counting inasmuch as the assets of the Federal Reserve Banks, etc., have been eliminated from both numerator and denominator (except for their contribution to the measure of national wealth).

[30] R. W. Goldsmith, *Financial Intermediaries . . . , op. cit.*, p. 316.

CHART 6. RATIO OF ASSETS HELD BY FINANCIAL INTERMEDIARIES IN THE UNITED STATES TO TOTAL NATIONAL ASSETS AND MAIN COMPONENTS [1]

(*Logarithmic vertical scale*)


Per Cent
A. TO TOTAL ASSETS
Total Financial Intermediaries Other Than Commercial Banks
Total Commercial Banks
B. TO NATIONAL INTANGIBLE ASSETS
C. TO NATIONAL WEALTH
D. RELATED DATA
Ratio of Assets of Financial Intermed. Other Than Com. Banks to Assets of Com. Banks
Ratio of National Intangible Assets to National Wealth
1900 '12 '22 '29 '32 '39 '45 '49 1952
1900 '12 '22 '29 '33 '39 '45 '49 1952
1900 '12 '22 '29 '33 '39 '45 '49 1952
1900 '12 '22 '29 '33 '39 '45 '49 1952

[1] Based on data in Table 5. Horizontal scale indicates benchmark dates, not equal time intervals.

TABLE 5. TOTAL ASSETS OF FINANCIAL INTERMEDIARIES (ADJUSTED) IN THE UNITED STATES AS PER CENT OF TOTAL NATIONAL ASSETS AND MAIN COMPONENTS[1]

	Total Intermediaries, Adjusted[2] (1)	Commercial Banks		Financial Intermediaries			Total Intermediaries, Goldsmith Definition (Unadjusted)[3] (7)	National Income (8)	Intangible Assets, Adjusted[2] (9)	National Wealth (Current Values) (10)
		Total (2)	Federal Reserve member banks (3)	Excluding commercial banks (4)	Excluding Federal Reserve member banks (5)	Selected noncommercial banks (6)				
	I. Per Cent of Total National Assets (Adjusted)[3]									
1900	12	6	—	6	—	3	12	10	43	55
1912	13	7	—	6	—	3	13	10	46	54
1922	14	7	5	7	9	3	15	9	50	52
1929	16	7	5	10	12	4	17	9	56	45
1933	17	6	5	11	13	5	19	6	55	46
1939	20	8	7	12	14	6	23	9	53	47
1945	21	11	10	10	12	5	26	12	61	39
1949	18	8	7	10	11	5	22	11	54	47
1952	18	8	7	10	12	5	22	12	50	50
	II. Per Cent of National Intangible Assets (Adjusted)[3]									
1900	28	14	—	13	—	7	28	24	...	
1912	29	16	—	14	—	7	29	21	...	
1922	29	15	10	14	18	6	30	19	...	
1929	29	12	9	17	20	6	30	16	...	See
1933	32	12	9	20	23	10	34	10	...	Part III
1939	38	15	12	23	25	11	42	18	...	col. (9)
1945	34	18	16	16	19	8	41	20	...	
1949	34	15	13	18	21	10	40	21	...	
1952	37	16	14	21	23	11	43	25	...	

III. Per Cent of National Wealth (Current Values)[4]

1900	22	11	—	10	—	5	22	18	78	...
1912	25	13	—	12	—	6	25	18	85	...
1922	28	14	10	13	18	5	29	18	96	...
1929	36	15	11	22	26	8	38	20	125	...
1933	38	14	10	24	28	12	42	12	121	...
1939	43	17	14	26	29	12	51	20	113	...
1945	54	28	24	26	29	13	71	32	155	...
1949	39	18	15	21	24	11	50	24	115	...
1952	36	16	13	20	23	10	46	24	98	...

[1] Based on data from Raymond W. Goldsmith, *A Study of Savings in the United States* (see text footnote 10) and *Financial Intermediaries in the American Economy Since 1900* (see text footnote 6).

The adjustment refers to the exclusion of Federal Reserve Banks, Federal Government trust funds, and Federal Government lending institutions from Goldsmith's definition of intermediaries; see above, pp. 386–87. In the comparisons of Goldsmith's totals (column 7) to national assets, etc., however, the assets of these institutions are included in both numerator and denominator.

[2] Column 1 = columns 2 + 4 = columns 3 + 5. For statement on adjustment, see footnote 1

[3] See footnote 1.

[4] Including land.

period following World War II (up to 1953), in comparison with the years prior to 1930. The postwar gains over the pre-1930 period for both commercial bank and noncommercial-bank intermediaries are summarized in Table 6. According to these data, the commercial banks

TABLE 6. PERCENTAGE INCREASE BETWEEN AVERAGE FOR 1900–1929 AND AVERAGE FOR 1949–1952 OF RATIO OF TOTAL ASSETS OF FINANCIAL INTERMEDIARIES IN THE UNITED STATES TO (1) TOTAL NATIONAL ASSETS, (2) TOTAL INTANGIBLE ASSETS, AND (3) TOTAL TANGIBLE ASSETS[1]

	Percentage Increase in Ratio To		
	Total national assets	Total intangible assets	Total tangible assets
Commercial banks	19	9	28
All other financial intermediaries	38	34	44
Total financial intermediaries	31	23	35

[1] Based on data in Table 5.

maintained, at least until 1952, a position of greater importance in the economy as a whole than they had held in 1900–1929; the fact that bank assets have declined relative to the assets of other financial intermediaries cannot therefore necessarily be taken as proof of any decline in the importance of banks in relation to economic activity.

It is of further interest to note that the data of Table 5 and Chart 6 indicate that the ratios of financial intermediaries' assets to measures of general economic activity have sometimes fluctuated widely. This instability is immediately observable from inspection of the chart, in spite of the fact that use of a logarithmic vertical scale has the visual effect of reducing the apparent variability.

Section D of Chart 6, when compared with the other sections, seems to indicate the basic forces which underlie the observed fluctuations. The large area between the curves in section D can be associated with similar areas in the other sections of the chart. During the two periods covering World Wars I and II, the section D series show a rise in the ratio of intangible assets to national wealth and reflect the fact that during war periods financing grows faster than wealth and the commercial banks are more active than other intermediaries as a source of finance.[31] At the conclusion of the war periods, however, the situation has been abruptly reversed, and the nonbank intermediaries have

[31] Since Goldsmith does not provide data for the 1912–22 period, the fact that total bank assets grew at a far more rapid rate than those of nonbank financial intermediaries during World War I may not be directly observed from the chart. That this did occur is strongly indicated by data published elsewhere, e.g., data on assets of all banks show that the annual growth rate of bank assets in 1916–20 was more than three times the rate in 1912–15, while for private life insurance

gained assets more rapidly than the banks, until some point has eventually been reached when the banks have begun to recover. Just prior to World War I, the banks were gaining slightly relative to other intermediaries; this occurred again after 1933. These data, however, show no repetition of this tendency since World War II.

The wide variability in the relationship of financial intermediaries as a whole to measures of general economic activity can thus be associated with the wide variability in the stock of financial (intangible) assets relative to tangible assets; and the wide variability in the relationships of banks and other intermediaries to economic activity has in large part been associated with contrasts between wartime and peacetime conditions. Such "ad hoc" variation, nevertheless, does not detract from the strong evidence of a secular growth of financial intermediaries relative to economic activity which, although most clearly evident in the growth of the nonbank institutions, is also observable in the growth of the banks. As long as the banking system continues to grow roughly in step with economic activity, the power of the monetary authorities need not diminish, even if other financial institutions happen to be expanding somewhat more rapidly. Moreover, the fact that Federal Reserve authorities can implement their policies by means of open market operations, an instrument of broad scope, implies that the growth of nonmember-bank financial intermediaries by no means checks the power of the monetary authorities.

Growth of Financial Intermediaries in Other Countries

Few data of the kind discussed above for the United States are available for other countries. However, in an article, "Financial Structure and Economic Growth in Advanced Countries: An Experiment in Comparative Financial Morphology," [32] Goldsmith has presented some selected statistical series on the United Kingdom, the Netherlands, and Germany. Some of these series were originally prepared by other authors within somewhat different frameworks, but they nevertheless shed some light on the development of the financial structures of these countries. The data in Table 7 have been derived from the figures in this article.

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companies the annual growth rate increased less than 50 per cent. (From 1920 to 1922, the banks lost assets while private life insurance companies continued to gain them.) See Department of Commerce, *Historical Statistics of the United States 1789–1945* (Washington, 1949), p. 262, and Institute of Life Insurance, *Life Insurance Fact Book 1958* (New York, 1958), p. 64.

[32] *Capital Formation and Economic Growth* (papers presented at Conference of the Universities—National Bureau Committee for Economic Research, Princeton University Press, Princeton, N.J., 1955), pp. 113–67.

TABLE 7. SELECTED CHARACTERISTICS OF FINANCIAL STRUCTURE: UNITED KINGDOM, UNITED STATES, NETHERLANDS, AND GERMANY[1]

	United Kingdom			United States				Netherlands		Germany					
	1913	1932–1934	1947–1949	1912	1933	1939	1949	1939	1947	1913	1925	1929	1938	1948	1951
	Per Cent of Total National Intangible Assets														
1. Total assets of financial intermediaries	21	28	31	24	28	34	36	16	30	30	28	34	38	36	35
2. Assets of banks	13	17	23	20	17	21	20	10	22	15	17	18	21	27	23
3. Assets of insurance agencies	4	7	6	4	7	7	10	6	8	3	3	3	5	5	3
4. Total government debt	5	28	46	5	11	14	27	13	40	11	14	11	9	23	12
5. Government debt outside financial intermediaries	4	11	19	2	6	6	9	10	18	7	6	6	4	5	5
6. Domestic business securities outside financial intermediaries	19	21	12	34	30	23	15	14	11	9	17	14	9	9	10
7. Foreign investments (gross)	27	14	4	5	5	8	6	30	18	...	...	...	...	...	...
	Per Cent of Total National Wealth														
8. Intangible assets	95	145	260	82	120	120	122	100	160	95	35	65	80	22	40
9. Foreign investments (gross)	26	21	11	4	6	10	7	30	28	...	...	...	...	...	...

[1] Derived from data in Raymond W. Goldsmith, "Financial Structure and Economic Growth in Advanced Countries: An Experiment in Comparative Financial Morphology," *Capital Formation and Economic Growth* (papers presented at Conference of the Universities—National Bureau Committee for Economic Research, Princeton University Press, Princeton, N.J., 1955), pp. 113–60.

In the absence of detailed statistics, these data cannot be adjusted to conform with the definition of the scope of financial intermediaries used above for the United States. The data for financial intermediaries include government institutions, such as social insurance funds, and the data for banks include the central bank as well as other noncommercial banks (but presumably not investment banks). For comparative purposes, Table 7 also provides data for the United States that are based on a definition similar to that used for the other countries and are therefore inconsistent with the statistics for the United States used in the first part of this study. Owing to the general lack of statistical details and other pertinent information, the analysis must be limited to a discussion of some of the more interesting highlights of the financial developments in the countries covered in Table 7.

Perhaps the most interesting point that is relevant to the general interests of this study is that the banking system appears to have developed in different ways in the United States and in the other countries covered in Table 7 (see line 2). In the United Kingdom, bank assets relative to total intangible assets increased by more than 75 per cent from 1913 to 1947–49; in Germany, the ratio of bank assets to intangibles increased by about 80 per cent from 1913 to 1948. In contrast, the banks in the United States in 1949 maintained the same proportion of total intangibles as in 1912, viz., 20 per cent. Similarly, from 1939 to 1947 the banking system in the Netherlands increased its holdings of assets relative to total intangibles by 120 per cent, while in approximately the same period (1939–49) in the United States there was a slight reduction in this ratio.

An indication of the growth of banks in these countries, relative to the growth of other financial intermediaries, can be derived from Table 7 as the ratio of line 2 to line 1 (Table 8). From these data the

TABLE 8. RATIO OF BANK ASSETS TO THE TOTAL ASSETS OF FINANCIAL INTERMEDIARIES: UNITED KINGDOM, UNITED STATES, NETHERLANDS, AND GERMANY[1]

(*In per cent*)

Approximate Year	United Kingdom	United States	Netherlands	Germany
1912–13	62	83	...	50
1925	...	...	...	61
1929	...	...	...	53
1932–34	61	61	...	...
1938–39	...	62	62	55
1947–49	74	56	73	75
1951	...	...	...	66

[1] Based on data in Table 7 (line 2 divided by line 1).

growth of banks relative to other financial intermediaries in the United Kingdom, the Netherlands, and Germany appears to have been primarily a phenomenon of World War II. For the United States, the war period was shown above to have been one in which the long-term downward trend in the relative position of commercial banks was abruptly, though temporarily, reversed (see Chart 1). Because of the difference in coverage of the financial intermediaries sector (e.g., Government trust funds were not eliminated), the U.S. data in Table 8 do not show the reversal of the trend.

Large gaps in the figures for the Netherlands and the United Kingdom and the absence of up-to-date data leave little basis for conclusions about observable trends. The two postwar periods of monetary reform in Germany also destroy much of the comparability of the figures; however, there is fairly strong evidence that the German banks have tended to maintain, and perhaps even to strengthen, their position relative to other financial intermediaries. On the other hand, German banks have been noted for carrying on functions which would elsewhere be regarded as outside the scope of commercial bank operations; the extent to which these secondary functions may be responsible for the continued growth of German banks relative to other intermediaries is not clear.

The more rapid growth of banks in the United Kingdom and the Netherlands can be directly associated with the more rapid expansion of government debt in those countries. From 1912–13 to 1947–49, the government debt component of total intangibles in the United Kingdom rose nearly twice as fast as in the United States; from 1939 to 1947–49, the government debt component of total intangibles in the Netherlands also increased approximately twice as fast as in the United States. Again, the monetary reforms, under which much of the outstanding government debt was repudiated, make impossible any useful comparison with Germany.

The record suggests two other interesting points. First, insurance companies have increased their assets relative to total intangibles in the United Kingdom, the United States, and the Netherlands, and up to 1948, also in Germany. The fact that the increase was wiped out in Germany by 1951 indicates that more up-to-date figures are required before reaching firm conclusions regarding the Netherlands and the United Kingdom. Second, the reduction of foreign assets in the United Kingdom and the Netherlands is of interest; the reduction relative to tangible assets is the more meaningful series (line 9 rather than line 7 of Table 7). The reduction of foreign assets in the Netherlands is clearly seen only in the comparison with intangible assets, which, however, is practically meaningless.

Because of the inadequacy of the information, little can be said about the implications of these data in relation to the effectiveness of monetary policy. The fact that the banking systems of these countries seem to have fared better than that of the United States suggests that the potential effectiveness of monetary policy may have increased more in these countries than in the United States. On the other hand, the growth of their banking systems may be largely a reflection of the inflationary aftermath of the war. Not only much more up-to-date statistics but also a careful analysis of other additional information would be necessary before any firm conclusion could be justified.

TABLE 9. DISTRIBUTION OF TOTAL ASSETS OF FINANCIAL INTERMEDIARIES IN THE UNITED STATES[1]

	1900	1912	1922	1929	1933	1939	1945	1949	1952	1955	1956	1957[2]
						I. Billion Dollars[3]						
1. Gross financial intermediaries	19.0	40.8	98.4	167.3	137.6	202.5	406.1	452.4	556.4	...	...	...
Less												
2. Federal Reserve Banks	—	—	—5.3	—5.5	—7.0	—190.0	—45.1	—45.6	—51.9	...	...	...
3. U.S. Government trust funds	—	—	—0.1	—1.0	—2.1	—4.6	—22.6	—34.3	—41.0	...	...	...
4. U.S. Government lending institutions	—	—	—0.7	—0.4	—2.8	—9.8	—32.6	—23.7	—29.9	...	...	...
5. Total financial intermediaries	19.0	40.8	92.3	160.4	125.7	169.1	305.8	348.8	433.6	...	...	...
Held by												
6. Federal Reserve member banks	—	—	33.7	48.1	33.8	55.4	138.3	134.4	160.8	179.4	184.9	185.5
7. Nonmember commercial banks	10.0	21.8	13.8	18.1	12.3	10.9	22.0	23.3	27.8	31.3	32.6	33.3
8. Total commercial banks	10.0	21.8	47.5	66.2	46.1	66.3	160.3	157.7	188.6	210.7	217.5	218.8
9. Insurance companies	2.3	5.6	11.7	24.0	27.0	38.0	60.2	84.6	108.2	...	...	...
9a. Private life insurance companies	(1.7)	(4.4)	(8.7)	(17.5)	(20.9)	(29.2)	(44.8)	(59.6)	(73.4)	(90.4)	(96.0)	(101.0)
10. Personal trust departments	3.0	7.0	18.0	30.0	25.0	35.0	45.0	50.0	60.0	...	...	...
11. Noncommercial banks	2.4	4.0	6.7	10.1	12.0	13.2	20.0	24.8	27.9	33.3	35.1	36.6
12. Savings and loan associations	0.5	1.0	2.8	7.4	6.2	5.4	8.6	14.5	22.5	37.7	42.9	48.3
13. Residual: 5 minus (8–12)	0.8	1.4	5.6	22.7	9.4	11.2	11.7	17.2	26.4	...	...	...
14. Intermediaries other than Federal Reserve member banks: 5 minus 6	—	—	58.6	112.3	91.9	113.7	167.5	214.4	272.8	...	...	...
15. Intermediaries other than commercial banks: 5 minus 8	9.0	19.0	44.8	94.2	79.6	102.8	145.5	191.1	245.0	...	...	...

	II. Percentage Distribution											
16. Total financial intermediaries	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	...	...	...
Held by												
17. Federal Reserve member banks	—	—	36.5	30.0	26.9	32.8	45.2	38.5	37.1	...	...	...
18. Nonmember commercial banks	52.6	53.4	15.0	11.3	9.8	6.4	7.2	6.7	6.4	...	...	...
19. Total commercial banks	52.6	53.4	51.5	41.3	36.7	39.2	52.4	45.2	43.5	...	...	...
20. Insurance companies	12.1	13.7	12.7	15.0	21.5	22.5	19.7	24.3	25.0	...	...	...
20a. Private life insurance companies	(8.9)	(10.8)	(9.4)	(10.9)	(16.6)	(17.3)	(14.7)	(17.1)	(16.9)	...	...	...
21. Personal trust departments	15.8	17.2	19.5	18.7	19.9	20.7	14.7	14.3	13.8	...	...	...
22. Noncommercial banks	12.6	9.8	7.3	6.3	9.5	7.8	6.5	7.1	6.4	...	...	...
23. Savings and loan associations	2.6	2.5	3.0	4.6	4.9	3.2	2.8	4.2	5.2	...	...	...
24. Residual: 16 minus (9–13)	4.2	3.4	6.1	14.2	7.5	6.6	3.8	4.9	6.1	...	...	...
25. Intermediaries other than Federal Reserve member banks: 16 minus 17	—	—	63.5	70.0	73.1	67.2	54.8	61.5	62.9	...	...	...
26. Intermediaries other than commercial banks: 16 minus 19	47.4	46.6	48.5	58.7	63.3	60.8	47.6	54.8	56.5	...	...	...

[1] Based on data in Raymond W. Goldsmith, *Financial Intermediaries in the American Economy Since 1900* (see text footnote 6), Table 10, pp. 73–74, and Board of Governors of the Federal Reserve System, *Federal Reserve Bulletin*, various issues.

[2] Preliminary.

[3] End-of-year data.

TABLE 10. DISTRIBUTION OF CHANGES IN TOTAL ASSETS OF FINANCIAL INTERMEDIARIES IN THE UNITED STATES[1]

	1901–1912	1913–1922	1923–1929	1930–1933	1934–1939	1940–1945	1946–1949	1950–1952	1953–1955	1956–1957
					I. Billion Dollars					
1. Total financial intermediaries[2]	21.8	51.5	68.1	—34.7	43.4	136.7	43.0	84.8	...	...
Held by										
2. Federal Reserve member banks	—	—	14.4	—14.3	21.6	82.9	—3.9	26.4	18.6	6.1
3. Nonmember commercial banks	—	—	4.3	—5.8	—1.4	11.1	1.3	4.5	8.5	2.0
4. Total commercial banks	11.8	25.7	18.7	—20.1	20.2	94.0	—2.6	30.9	27.1	8.1
5. Insurance companies	3.3	6.1	12.3	3.0	11.0	22.2	24.4	23.6	...	...
5a. Private life insurance companies	(2.7)	(4.3)	(8.8)	(3.4)	(8.3)	(15.6)	(14.8)	(13.8)	(17.0)	(10.6)
6. Personal trust departments	4.0	11.0	12.0	—5.0	10.0	10.0	5.0	10.0	...	...
7. Noncommercial banks	1.6	2.7	3.4	1.9	1.2	6.8	4.8	3.1	5.4	3.3
8. Savings and loan associations	0.5	1.8	4.6	—1.2	—0.8	3.2	5.9	8.0	15.3	10.6
9. Residual: 1 minus (4–8)	0.6	4.2	17.1	—13.3	1.8	0.5	5.5	9.2	...	...
10. Intermediaries other than Federal Reserve member banks: 1 minus 2	—	—	53.7	—20.4	21.8	53.8	46.9	58.4	...	...
11. Intermediaries other than commercial banks: 1 minus 4	10.0	25.8	49.4	—14.6	23.2	42.7	45.6	53.9	...	...

	II. Increase in Assets as Per Cent of Increase in Assets of All Financial Intermediaries									
12. Total financial intermediaries[2]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	...	...
Held by										
13. Federal Reserve member banks	—	—	21.1	41.2	49.8	60.6	—9.1	31.1	...	...
14. Nonmember commercial banks	—	—	6.3	16.7	—3.2	8.1	3.0	5.3	...	...
15. Total commercial banks	54.1	49.9	27.5	57.9	46.5	68.8	—6.0	36.4	...	...
16. Insurance companies	15.1	11.8	18.1	—8.6	25.3	16.2	56.7	27.8	...	...
16a. Private life insurance companies	(12.4)	(8.3)	(12.9)	(—9.8)	(19.1)	(11.4)	(34.4)	(16.3)	...	...
17. Personal trust departments	18.3	21.4	17.6	14.4	23.0	7.3	11.6	11.8	...	...
18. Noncommercial banks	7.3	5.2	5.0	—5.5	2.8	5.0	11.2	3.7	...	...
19. Savings and loan associations	2.3	3.5	6.8	3.5	—1.8	2.3	13.7	9.4	...	...
20. Residual: 12 minus (15–19)	2.8	8.2	25.1	38.3	4.1	0.4	12.8	10.8	...	...
21. Intermediaries other than Federal Reserve member banks: 12 minus 13	—	—	78.9	58.8	50.2	39.4	109.1	68.9	...	...
22. Intermediaries other than commercial banks: 12 minus 15	45.9	50.1	72.5	42.1	53.5	31.2	106.0	63.6	...	...

[1] Based on data in Table 9.
[2] As derived in Table 9.

TABLE 11. DISTRIBUTION OF HOLDINGS OF U.S. GOVERNMENT SECURITIES AMONG FINANCIAL INTERMEDIARIES IN THE UNITED STATES[1]

	1900	1912	1922	1929	1933	1939	1945	1949	1952	1955	1956	1957[2]
						I. Billion Dollars[3]						
1. Total financial intermediaries[4]	0.7	0.8	8.2	7.1	13.5	31.3	146.8	124.1	118.0	...	...	...
Held by												
2. Federal Reserve member banks	—	—	3.8	3.9	7.3	14.3	78.3	56.9	52.8	50.7	47.6	46.8
3. Nonmember commercial banks	0.5	0.8	0.8	0.8	0.6	2.0	12.3	10.1	10.5	10.9	11.0	11.1
4. Total commercial banks	0.5	0.8	4.6	4.7	7.9	16.3	90.6	67.0	63.3	61.6	58.6	57.9
5. Insurance companies	—	—	1.4	0.9	1.4	7.0	27.1	25.6	22.7	...	...	...
5a. Private life insurance companies	(—)	(—)	(0.9)	(0.3)	(0.9)	(5.4)	(20.6)	(15.3)	(10.3)	(8.6)	(7.6)	(7.1)
6. Personal trust departments	—	—	0.9	0.9	2.5	3.5	12.4	15.0	17.5	...	...	...
7. Noncommercial banks	0.1	—	1.2	0.6	1.0	4.3	13.5	14.5	12.0	10.3	9.6	8.9
8. Savings and loan associations	—	—	—	—	0.1	0.1	2.4	1.5	1.8	2.3	2.8	3.2
9. Residual: 1 minus (4–8)	0.1	—	0.1	—	0.6	0.1	0.8	0.5	0.7	...	...	...
10. Intermediaries other than Federal Reserve member banks: 1 minus 2	—	—	4.4	3.2	6.2	17.0	68.5	67.2	65.2	...	...	...
11. Intermediaries other than commercial banks: 1 minus 4	0.2	—	3.6	2.4	5.6	15.0	56.2	57.1	54.7	...	...	...

II. Percentage Distribution												
12. Total financial intermediaries[4]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	...	...	...
Held by												
13. Federal Reserve member banks	—	—	46.3	54.9	54.1	45.7	53.3	45.9	44.7	...	...	...
14. Nonmember commercial banks	—	—	9.8	11.3	4.4	6.4	8.4	8.1	8.9	...	...	...
15. Total commercial banks	71.4	100.0	56.1	66.2	58.5	52.1	61.7	54.0	53.6	...	...	...
16. Insurance companies	—	—	17.1	12.7	10.4	22.4	18.5	20.6	19.2	...	...	...
16a. Private life insurance companies	(—)	(—)	(11.0)	(4.2)	(6.7)	(17.3)	(14.0)	(12.3)	(8.7)	...	...	...
17. Personal trust departments	—	—	11.0	12.7	18.5	11.2	8.4	12.1	14.8	...	...	...
18. Noncommercial banks	14.3	—	14.6	8.4	7.4	13.7	9.2	11.7	10.2	...	...	...
19. Savings and loan associations	—	—	—	—	0.7	0.3	1.6	1.2	1.5	...	...	...
20. Residual: 12 minus (15–19)	14.3	—	1.2	—	4.4	0.3	0.5	0.4	0.6	...	...	...
21. Intermediaries other than Federal Reserve member banks: 12 minus 13	—	—	53.7	45.1	45.9	54.3	46.7	54.1	55.3	...	...	...
22. Intermediaries other than commercial banks: 12 minus 15	28.6	—	43.9	33.8	41.5	47.9	38.3	46.0	46.4	...	...	...

[1] Based on data in Raymond W. Goldsmith, *Financial Intermediaries in the American Economy Since 1900* (see text footnote 6); Board of Governors of the Federal Reserve System, *Federal Reserve Bulletin*, various issues; and U.S. Treasury Department, *Treasury Bulletin*, various issues.

[2] Preliminary.

[3] End-of-year data.

[4] Total for financial intermediaries (as derived in Table 9) for which a classification of assets is available; hence, excludes mortgage companies, security brokers and dealers, and investment holding companies.

TABLE 12. HOLDINGS OF U.S. GOVERNMENT OBLIGATIONS AS PER CENT OF TOTAL ASSETS OF FINANCIAL INTERMEDIARIES IN THE UNITED STATES[1]

	1900	1912	1922	1929	1933	1939	1945	1949	1952	1955	1956	1957[2]
1. Total financial intermediaries[3]	3.8	2.0	9.4	4.9	11.1	19.0	48.9	36.2	27.7	...	...	...
Held by												
2. Federal Reserve member banks	—	—	11.3	8.1	21.6	25.8	56.6	42.3	32.8	28.3	25.7	25.2
3. Nonmember commercial banks	—	—	5.8	4.4	4.9	18.3	55.9	43.3	37.8	30.0	33.7	33.3
4. Total commercial banks	5.0	3.7	9.7	7.1	17.1	24.6	56.5	42.5	33.6	28.6	26.9	26.5
5. Insurance companies	—	—	12.0	3.8	5.2	18.4	45.0	30.3	21.0	...	...	...
5a. Private life insurance companies	(—)	(—)	(10.3)	(1.7)	(4.3)	(18.5)	(46.0)	(25.7)	(14.0)	(9.5)	(7.9)	(7.0)
6. Personal trust departments	—	—	5.0	3.0	10.0	10.0	27.6	30.0	29.2	...	...	...
7. Noncommercial banks	4.2	—	17.9	5.9	8.3	32.6	67.5	58.5	43.0	30.9	27.4	24.3
8. Savings and loan associations	—	—	—	—	1.6	1.9	27.9	10.3	8.0	6.1	6.5	6.6
9. Residual	—	—	10.0	—	12.5	1.4	12.9	4.3	3.7	...	...	...
10. Intermediaries other than Federal Reserve member banks	—	—	8.1	3.3	7.1	15.5	42.3	32.2	24.6	...	...	...
11. Intermediaries other than commercial banks	2.4	—	9.0	3.0	7.5	15.2	40.1	30.8	23.0	...	...	...
12. Selected noncommercial bank intermediaries[4]	2.2	—	11.5	2.6	5.1	20.5	49.7	31.6	19.5	13.2	11.5	10.3

[1] See Tables 9 and 11, footnotes 1 and 3.
[2] Preliminary.
[3] As derived in Table 9.
[4] Private life insurance companies, mutual savings banks, postal savings system, and savings and loan associations.

Financial Policies and Credit Control Techniques in Central America

Eduardo Laso *

IN EACH OF THE FIVE Central American countries, Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua, the sound monetary policies which have in general been pursued in recent years have been helpful in promoting internal and external stability and in ensuring balanced and orderly economic development.[1] Since 1950, both agricultural and industrial production have expanded in each of these countries. In several of the countries, the imports of food which formerly were necessary are no longer required, and in normal crop years there now are actually small export surpluses. Social capital has been expanded rapidly. New and better roads have been constructed, more electric power has been produced, and more schools and hospitals have been built since 1950 than in the whole of the preceding 20 years. This expanded social capital will facilitate an even more rapid increase of production in the future.

These increases in capital investment and in production have been achieved without recourse to inflation. Despite the effects of rising world prices for coffee, the leading export commodity of these countries, upon bank lending and private spending, remarkable stability has been maintained in the cost of living, except in Nicaragua. Such increases as have occurred in prices and the cost of living have been moderate; this attests the soundness of the monetary policies adopted. Moreover, the fact that a rapid rate of development was maintained without undue pressure on the balance of payments shows that the authorities did not forget the importance of external payments equilibrium as a primary objective of monetary policy.

It cannot, of course, be maintained that the rapid progress made by the Central American countries in recent years stems exclusively from

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[1] This is a revised version of a paper presented to the Fifth Meeting of Technicians of Central Banks of the American Continent held in Bogotá in November 1957.

their sound monetary policies, although experience shows clearly that economic progress is often retarded by inadequate monetary policies. Nor can it be claimed that the monetary techniques developed by the Central American countries completely eliminate any risk of monetary disturbance in the future. It is true, however, that the monetary policies pursued in these countries have been an important part of the favorable environment in which orderly economic development has gone on. They have also been a factor in the development of a public opinion favorable to the economic integration of the Central American region. The record is sufficiently impressive to justify a careful examination of recent developments in the banking institutions of the area.

This examination will necessarily take account of the important differences which exist between the Central American countries. Their circumstances and traditions are sufficiently different to warrant the expectation that their development will not be along uniform lines. Honduras is the least developed of the Central American countries, but it appears to be on the threshold of important economic progress as a result of basic improvements in transportation and electric power. In El Salvador, on the other hand, which has a high population density, there is already a well developed industrial sector. The highest level of general education and of per capita purchasing power is to be found in Costa Rica, and the largest urban center in Central America is in Guatemala. Nicaragua has expanded its agriculture very rapidly in recent years. However, geographical proximity and historical ties, the similarity of their economic structures, and especially the movement in Central America toward economic cooperation and integration, make it appropriate, before attempting any detailed analysis of the development of banking and monetary policy in the individual countries, to make some general observations that are applicable to more than one country or to the region as a whole. A brief summary of the development of banking in each of the five countries, and some comments on the history of their monetary policy up to the end of 1955, are given in later sections of this paper.

Monetary policy is, in this context, to be understood as being applied by means of the instruments used by the government, acting through its specialized agencies, and in particular through the central or national banks, to influence the volume, the availability, and the cost of credit. Fiscal policy, on the other hand, acts upon other variables in the economic system, such as the volume of income and employment, the price level, the distribution of income between classes and sectors, the allocation of productive resources to various economic

activities, the composition of investment, etc. Monetary policy, of course, has many possible objectives; for example, it may aim at a high level of real income and employment, at stability of the general price level or of some sector of the price level, or at balance of payments equilibrium and the defense of foreign exchange reserves. In some circumstances, these objectives may be incompatible, and one of them will then have to be sacrificed for the sake of others which are regarded as more important. The duty of the monetary authorities is to develop policies which will ensure the most satisfactory compromise between competing objectives. In some circumstances, even though there is no conflict between objectives, monetary policy by itself may be quite ineffective; it normally has to be applied in conjunction with other appropriate policies, and in particular with fiscal policy. Indeed, in countries with characteristics similar to those usually found in Central America, fiscal action is more than an indispensable condition for the success of monetary policy. There is a wide scope for its effective action, and it may by itself achieve substantial results.

The best single measure of the current effectiveness of monetary policy in Central America is the contribution it has made to the achievement of the objective of economic development without the generation of inflationary pressures. This objective, however, has had to be related, as far as possible, to the wider objectives listed above, the achievement of which also requires simultaneous appropriate fiscal action.

Central Bank Development in Central America

The development of effective monetary policy in Central America has been made easier by the establishment of modern central banking institutions and the increasing use of the up-to-date instruments of credit control with which these institutions have been equipped. In 1945, the Bank of Guatemala became a central bank; and in 1950, central banks were established in Costa Rica and Honduras. The establishment of a central bank in Honduras was part of the transition from a monetary system in which U.S. silver coins, Guatemalan quetzales, and Salvadoran colones formed most of the means of payment to a modern system in which the central bank could exercise close control over monetary developments.[2] The privately owned Central Reserve Bank of El Salvador, established in 1934, has acquired

[2] See Paul Vinelli, "The Currency and Exchange System of Honduras," *Staff Papers*, Vol. I (1950–51), pp. 420–31.

considerable prestige as a result of its long record of efficient management. The government-owned and government-controlled National Bank of Nicaragua, which was reorganized in 1940, was not originally designed to be exclusively a central bank. Up to 1953 it did practically all the banking business of the country, and no strong need was felt for a central bank. Through its Issue Department it performed many central bank functions, and its Banking Department supplied all the most important commercial bank services. With the development of additional credit institutions since 1953, the need for an independent central bank has become more evident, and the National Bank has itself recently engaged in a more active monetary policy. Studies relating to the establishment of a central bank in Nicaragua are well advanced.

The growth of efficient central banks has proceeded in close relation to the growth of other specialized credit institutions, which have made possible a more efficient use of credit within a program of balanced development. Increases in the capital of the Central Bank of Costa Rica and of the National Bank of Nicaragua have also enabled these institutions to take a more active interest in economic development. In general, active monetary policy has been synchronized with more positive fiscal policies with a view to accelerating development and assisting the execution of government development plans.

The central banks of Costa Rica, Guatemala, and Honduras, being of recent origin, have modern statutes that embody many of the recent advances in central bank theory. They have been endowed with broad powers of monetary control, including the power to vary commercial bank reserve requirements and to influence commercial bank lending by establishing differential rediscount rates, prescribing credit ceilings for commercial banks, etc. The formal powers of the Central Reserve Bank of El Salvador, which was established earlier, are less extensive. However, in recent years the bank has, by means of moral suasion, effectively influenced the policy of the commercial banks, and reforms instituted in 1952 have greatly strengthened the instruments for credit control which are at its disposal.

The activities of each of the three recently established central banks are restricted by law to transactions with commercial banks. Although the Central Reserve Bank of El Salvador is authorized to deal with members of the public, most of its operations are with the banking system. The National Bank of Nicaragua, on the other hand, grants loans directly to the public through its Banking Department. The direct access to central bank facilities thus made available to the public has increased the difficulties of controlling credit in Nicaragua.

especially since two private commercial banks were established in 1953. As long as the Banking Department of the National Bank has permanent access to rediscount facilities with the Issue Department, it is difficult to deny a similar right to the private commercial banks, even at a time when the need for credit restraint is clear.

A high degree of coordination between fiscal policy and monetary policy is assured in all of the Central American countries except El Salvador, by the legal provision which makes the Finance Minister a member of the board of governors of the central bank. In El Salvador the Government has the right of veto over the appointment of the President of the Central Bank. In each country the principal sectors of the economy are represented on the governing bodies of the central bank, and central bank management has maintained a high degree of independence from the executive branch of the government. The banking laws, moreover, limit in each country the right of the national treasury to obtain advances from the central bank.

The central bank in each of the Central American countries is responsible for managing the country's money supply and its foreign exchange reserves. This has been done in such a way that for each of the local currencies full convertibility has, for all practical purposes, been established and maintained at stable exchange rates. Each one of these countries is highly dependent on one or two staple exports for the greater part of its exchange earnings, and the world prices of these commodities therefore play a decisive role in relation to the maintenance of monetary stability. In recent years, receipts of foreign exchange have, in general, been sufficient to enable the central banks not only to maintain stable exchange rates, but also to finance an adequate inflow of imports. The improvement in the terms of trade, however, has sometimes presented a threat to monetary stability. In some of the large coffee producing countries, it has not always been possible fully to protect the economy against the monetary pressures generated by good export prices, and thus to avoid exchange disequilibrium and even exchange depreciation. Most Central American countries, however, have had a fair measure of success in maintaining monetary stability and have been able to carry out effective monetary policies without frequent recourse to central bank credit. Some of them averted an undue expansion of their international reserves by promoting their utilization for development purposes. The expansion of money income was thus avoided or slowed down, while capital equipment and productivity were increased.

There have been occasions when Central American governments, desiring more rapid development, have superimposed extensive investment programs upon the ordinary budget, and then in order to

cover budgetary deficits have had to rely on extensive central bank credit, thus impairing the ability of the monetary authorities to control the supply of money and credit. In recent years, however, balanced budgets have been the rule in Central America and deficits the exception. The debt of the Nicaraguan Government to the banking system has been practically repaid. At the time of the last constitutional change of Presidents in El Salvador, the Government that was completing its term left a surplus in the Treasury equal to at least 40 per cent of the annual budget. Guatemala, Costa Rica, and Honduras have found it possible to make increasing use of external credit to finance highway construction and other development projects. The influence of monetary policy in these countries cannot be precisely measured, but among all the circumstances and policies that are relevant, sound monetary policies always have an important role in rapid economic development.

Economic and Institutional Obstacles to the Application of Monetary Policy

Certain special characteristics which are to be found in varying degree in all the Central American economies present special problems for the direction of monetary policy. Reference has already been made to the fact that each of these economies is highly dependent on exports of a few primary commodities for the greater part of its foreign exchange earnings and a substantial part of its national income. In 1953, for example, 86 per cent of El Salvador's exports, 77 per cent of Guatemala's, 44 per cent of Costa Rica's, 39 per cent of Nicaragua's, and 17 per cent of those of Honduras consisted of coffee. Bananas accounted for 65 per cent of the exports of Honduras, and 42 per cent of Costa Rica's. These two commodities, coffee and bananas, accounted for nearly 80 per cent of the total exports of Central America. In Costa Rica, Guatemala, and Honduras banana plantations have been extensively developed by foreign capital.

Wide swings in the volume and value of these exports cause correspondingly wide variations in the exchange earnings and international reserves of the countries which export these goods, and the resulting variations in the money supply are difficult to control. The comparatively remunerative level of coffee prices since 1950 has influenced the effectiveness of monetary policies in recent years. Some countries have had a certain success in restraining the inflationary effects of export booms; when as a result of reduced crops the trend was in the opposite

direction, however, as in Nicaragua and Costa Rica in 1956, it was difficult to stimulate business activity by monetary measures, for credit expansion led to serious pressure on international reserves.

More than half of the economically active population of Central America is engaged in agriculture, the proportion ranging from a little more than 50 per cent in Costa Rica to some 65 per cent in El Salvador and Nicaragua, nearly 75 per cent in Guatemala, and more than 80 per cent in Honduras. Only some 12 per cent of the economically active population is engaged in industry; however, in Honduras the proportion so engaged is but 6 per cent. The conditions under which agriculture has developed in Central America, and in particular the uneven distribution of land (except in Costa Rica) and the low level of capitalization, have always placed limitations upon the effective application there of monetary policy.

The volume of savings and investment in Central America is, in any event, severely restricted by the low average level of personal income. Commercial banks have often confined their activities to short-term foreign trade financing, and have refrained from making domestic loans or investments. In particular, small farmers have almost no access to banking facilities and are sometimes obliged to sell their output at crop time at very low prices. Scientific methods of production are out of their reach. The use of credit has at times been concentrated on the small number of farmers who have extensive holdings of land. But even though these farmers may use credit for soil conservation, the use of fertilizers and selected seeds, irrigation, and mechanization, it has been the custom of many of them, at least in the past, to prefer investment in real estate and inventory holdings.

The effectiveness of monetary policy is clearly limited if, in important sectors of the economy, there is little or no use of money. In this respect there are considerable differences between the countries of Central America. Large sections of the population still remain outside the market economy. In Guatemala, for example, a large indigenous population is almost entirely self-sufficient and uses money for only a few transactions. In Honduras also, a considerable part of the population is occupied in growing its own food and has few commercial contacts. The per capita money supply is accordingly less in Guatemala and Honduras than in other Central American countries. Even where the use of money has become general, there are considerable differences in the extent to which banking facilities and banking traditions have developed. This considerably limits the scope for using the traditional central bank techniques, and in particular open market and discount operations, to influence the cost and availability of credit.

Banking habits are widespread in Costa Rica and Nicaragua, where bank deposits constitute more than 50 per cent of the money supply. In Guatemala, on the other hand, more than two thirds of the money supply consists of notes and coins. In El Salvador, the ratio of currency in circulation to the total money supply fell from 67 per cent in 1948 to 50 per cent in 1955. This movement may have been in part a result of the rapid growth in El Salvador of the incomes of those who make use of the banking system, but probably it was also due in part to a wider use of banking facilities. The relative importance of checks is now much the same in El Salvador as in Costa Rica and Nicaragua.

Instruments of Credit Policy

The recent date at which most of the Central American central banks were established has made it possible to ensure that the instruments of credit control entrusted to them should be equal, or even superior, in variety and flexibility to those available in most other parts of the world.[3] The formal powers granted to a central bank are, however, less important than the way in which their powers are used, and it is on this question that attention should be concentrated. The instruments most likely to be effective in countries whose financial structure is comparatively undeveloped will then be more easily identified.

Commercial Bank Reserve Requirements

The basic laws of each of the Central American central banks require commercial banks to maintain with the central bank reserves equal to specified percentages of their demand and time deposits. In Costa Rica, Guatemala, and Honduras these reserve ratios may be varied by the central bank between the limits of 10 per cent and 50 per cent; in El Salvador, the percentage is fixed at 20.

The outstanding illustration of the use of this instrument of credit control in Central America was in Honduras early in 1955. Up to 1953, Honduras had not only maintained a balanced budget but actually had fiscal surpluses. In that year, the Central Bank encouraged some expansion of loans in order to stimulate development and to offset the somewhat deflationary effects of the surplus. Later, however, and particularly in 1953, there was a fiscal deficit, and the prevention of the

[3] "Monetary Policy in Latin America," *Monthly Review of Credit and Business Conditions* (Federal Reserve Bank of New York), April 1956, p. 50.

secondary expansion which this deficit might have caused became one of the objectives of central bank policy. Early in 1955, the prescribed ratio of commercial bank reserves was raised from 25 per cent to 35 per cent, and it was ruled that the increased reserves that commercial banks were thus required to maintain might be invested by them in government bonds. The trend toward increased commercial bank liquidity led at the beginning of December 1956 to reducing the rediscount ceilings to the volume of rediscounts outstanding at that time, raising the rate of interest on the public debt, and increasing from 3 per cent to 4 per cent the maximum rate of interest on savings deposits. The Central Bank of Honduras also prevailed upon the banks to agree to limit their loan portfolios to the amounts outstanding on November 30, 1956, except for loans considered by the Central Bank to be for productive purposes, e.g., for financing the coffee crop or for industry or agriculture.

Advance deposits on imports

At the end of 1950, use was made for the first time in Central America of the requirement that importers should make advance deposits on goods imported by them. This is a comparatively new instrument for curbing inflationary pressures to which several countries in Latin America and elsewhere have resorted in recent years.[4] The requirement of such advance deposits was part of a new system of exchange control established in Nicaragua in substitution for the quantitative import controls that had been in operation since 1931, and the administration of which had involved an arbitrary distribution of import licenses.

Fiscal deficits and a policy of expanded commercial credit brought about continued balance of payments deficits in Nicaragua, which by the end of 1949 had almost exhausted its exchange resources. The sound credit and fiscal policies which were adopted from 1950 and the advance deposit requirement associated with them had beneficial effects upon the Nicaraguan economy. At first, the advance deposit required in national currency on imports of all kinds was equal to 100 per cent of their value. As the payments position improved in 1952 and 1953, this requirement was made more flexible. Imports were classified in three lists, according to the degree of essentiality, and deposits of 100 per cent were maintained only for nonessential imports. Imports in an intermediate class were subject to a deposit of 75 per cent, and essential imports to one of 50 per cent. The advance deposit requirement was

[4] See Jorge Marshall, "Advance Deposits on Imports," *Staff Papers*, Vol. VI (1957–58), pp. 239–57.

subsequently eliminated for a list of essential imports, such as agricultural machinery, fumigators, ploughs, insecticides, and fertilizers, but in 1956 a further revision of the lists increased the number of imports subject to the requirement.

During the first two years of the imposition of the advance deposit requirement in Nicaragua, the volume of credit was maintained more or less unchanged, the contraction which was desired in the money supply being produced by the deposit requirement. Later, and especially in 1955 and 1956, when the Issue Department of the National Bank considerably increased the volume of its rediscounts, the anti-inflationary effect of the advance deposit requirement was counteracted, to some extent. It was argued, however, that, by discouraging nonessential imports, advance deposits helped the National Bank to make effective the policy of selective credit control which was intended to encourage credit for productive purposes.

Credit ceilings and selective credit controls

All the Central American central banks have made vigorous efforts to influence the allocation of resources in the directions preferred by them, and to check the expansion of credit in such directions as luxury building, inventory accumulation, real estate investment, etc., which are regarded as undesirable. Variable rediscount rates, with preferential treatment for certain types of commercial paper, have been used by nearly all of them to encourage productive activity in agriculture and industry. The evolution of policy in Costa Rica is of special interest.

The chief instrument of credit policy in Costa Rica has, for some years, been the imposition of credit ceilings, i.e., quantitative limits on bank loans and advances, either in the aggregate or for individual banks. By this means, credit has been directed into such productive activities as agriculture and industry, instead of into speculative or commercial activities, such as import trade (Table 1).

At the end of 1950, a general credit ceiling of ₡271.6 million was established with the intention of influencing the quantity of bank credit rather than its distribution among different sectors of the economy. In the circumstances which prevailed a year later, it was thought desirable to limit any increase in total bank credit to 4 per cent. There were, however, special demands from the Rural Credit Boards for credit to increase agricultural production for the local market, and from the National Production Council for credit to enable remunerative and stable prices to be maintained for these commodities. Additional credit was accordingly authorized for these purposes, but at the same time commercial credit was correspondingly reduced, to keep the increase in

TABLE 1. CREDIT CEILINGS FOR COMMERCIAL BANKS IN COSTA RICA, 1950–56

(In millions of colones; data as of end of year)

Ceilings for	1950	1951	1952	1953	1954	1955	1956
Loans and investments	271.6	252.0	257.0	280.0	227.0	227.0	265.0
Coffee crop	—	—	—	—	55.0	55.0	55.0
Rural Credit Boards	—	23.0	25.0	36.0	36.0	47.5	55.0
National Production Council	—	3.0	10.0	10.0	9.5	9.5	9.5
Loans to buy fertilizers for coffee and cocoa	—	—	—	—	9.2	9.7	9.7
Capital goods imports	—	—	16.5	16.5	15.7	15.2	15.2
Economic development projects	—	—	—	—	5.0	18.0	20.0
Additional coffee crop	—	5.5	—	12.5	18.7	19.5	41.5
Total	271.6	283.5	308.5	355.0	376.2	401.4	470.9

Sources: Banco Central de Costa Rica, *Memoria Anual* (San José, Costa Rica), 1952 to 1956.

total bank credit down to 4 per cent. Similar adjustments were made in later years. Higher prices produced a demand for increased credit for coffee production, and in general credit for productive purposes was allowed to expand at a faster rate than credit for commercial purposes.

UTILIZATION OF INTERNATIONAL RESERVES AS INSTRUMENTS OF GENERAL CREDIT CONTROL

It has already been pointed out that, since 1950, the international reserves of all the Central American countries have been managed in such a way that for all practical purposes full convertibility has been established and maintained at stable exchange rates for each of the local currencies. In each country the central bank acts as custodian of the international reserves; and, by operating as the residual buyer and seller of gold and foreign exchange, it maintains effective convertibility for its currency. El Salvador, Guatemala, and Honduras have assumed the obligations of Article VIII, Sections 2, 3, and 4, of the Articles of Agreement of the International Monetary Fund, and impose no exchange restrictions on foreign payments. The central banks have thus used international reserves for the classical purpose of providing the international means of payment required to maintain the convertibility of domestic currencies into foreign currencies at stable exchange rates.

In Costa Rica, where the authorities have acted experimentally on the principle that, when exchange receipts are high, they should be used in appropriate amounts to finance development, there has been

a departure from the classical principle of accumulating reserves in prosperous times for use in times of depression. "The best way to prepare a country for a period of low exchange receipts and import stringency," it has been stated by the Costa Rican authorities, "is to open new sources of production within the country and to reinforce those already in existence."[5] In accordance with this principle, a plan was devised for a special type of loan to finance imports of capital goods when the Central Bank's foreign assets were quadrupled between the end of 1950 and the end of 1953—mainly because of good coffee prices—and the money supply rapidly expanded. From 1952 to 1956, about $4 million was used in this way for imports of capital goods. Such use of reserves in periods of expansion, moreover, checked an increase in the money supply and therefore also had anti-inflationary implications. When a loan for imports of capital goods to be financed from accumulated international reserves is made, the borrower is required at once to make a deposit equal to at least 20 per cent of the total value of the loan. These loans are for periods of from three to seven years. In 1956, financing from the International Bank for Reconstruction and Development was used for further loans of a similar kind.

Development of a capital market

In several Central American countries, steps have been taken by the central banks to encourage saving and to facilitate the development of domestic capital markets so that savings may be channeled toward productive investment. With the latter purpose in view, the central bank statutes of Costa Rica, Guatemala, and Honduras, for example, authorize the banks to engage in open market operations. The efforts of the Central Reserve Bank of El Salvador—by issuing its own bonds, Certificados de Participación—to induce private banks to participate more actively in promoting production are of special interest in this connection and are described in detail below.

In almost all the Central American countries, new taxation patterns have been established which make possible more extensive government investment directed toward a larger volume of production and of exports. Specialized agricultural and industrial credit institutions have been established to meet the credit needs of the domestic sector of the economy and to bridge the gap between its less developed sections and

[5] "Uso de las Reservas Internacionales para Propósitos de Desarrollo Económico," *Proceedings, Fourth Meeting of Technicians of Central Banks of the American Continent* (Board of Governors of the Federal Reserve System, Washington, D. C., 1955), pp. 682–83. This paper was presented by the Costa Rican delegation to the Fourth Meeting, May 1954.

the national monetary and banking system. Most progress has been made in this connection in Costa Rica and in El Salvador, where monetary stability has provided a favorable environment for the development of a market in government securities. Part of the credit traditionally available for trade has been diverted to agriculture; and institutional intermediaries, e.g., social security and insurance funds, have helped to make part of the community's savings available for productive purposes. In El Salvador, sizable bond issues have been placed both with the public and with financial institutions by the Mortgage Bank and the Lempa River Commission. The Instituto de Fomento de la Producción (INFOP), established in Guatemala in 1948, has become mainly an agricultural credit bank specializing in small agricultural loans and the financing of special crops, e.g., cotton. In Honduras, the National Development Bank combines with its lending activities the direct financing of agricultural and industrial projects which are regarded as important, but for which private equity capital is either not available or available only in insufficient amounts. A similar institution was established in Nicaragua in 1953. The activities of these institutions extend beyond the limits, strictly interpreted, of central bank policy. They illustrate the variety of means used in Central America to promote development by a harmonious synthesis of credit and fiscal policies.

Banking in Costa Rica

The banking system of Costa Rica includes the Central Bank of Costa Rica (Banco Central de Costa Rica), the National Bank of Costa Rica, and three commercial banks, which were nationalized in 1948—the Anglo-Costa Rican Bank, the Agricultural Bank of Cartago, and the Lyon Bank. When these three banks were nationalized, private shareholders received the book value of their shares, and the ownership of the banks was transferred to the Government. The banks remained under the same administration as before, and public confidence in them has not declined. In fact, private deposits have increased since 1948.

The Board of Directors of the Central Bank is composed of seven members appointed by the Government. The Government, however, does not interfere with the administration of the Bank; and, under the law, the Bank is assured of functional and administrative autonomy.

The Bank is charged with the duty of promoting the orderly development of the Costa Rican economy, with a view to attaining full employment of its productive resources and avoiding or moderating any

inflationary or deflationary tendencies that may arise in the money and credit market. It also has to maintain the internal stability of the colón as well as to assure its convertibility. The law states that the Bank will receive the aid and cooperation of the Government and of all the government agencies and institutions. The Minister of Economy and Finance is an ex officio member of the Bank's Board. The Bank acts as the financial agent, advisor, and depository of the Government. Its actions should be in conformity with the requirements of any international monetary and banking agreements signed by the Government; in relation to such agreements, it acts as the Government's legal and financial agent. It may also act as agent or correspondent of other central banks or international monetary and banking institutions and of first-class foreign banks, as well as designate such institutions to act as its agent or correspondent abroad.

The Central Bank's capital of ₡ 5 million has been provided by the Government. The Bank has the exclusive right of note issue, and has the custody and administration of Costa Rica's monetary reserves. The law regulates the form and the investment of the international reserves, but it does not require any statutory minimum.

The Bank has the functions of guiding, supervising, and coordinating the whole banking system, and of promoting conditions favorable for the strengthening and proper functioning of that system. It holds the legal reserves of the other banks (deposit reserves) and acts as a clearing house for them. It also has authority to grant permits for the establishment of private banks. It sets the interest rates for different types of paper admitted for rediscount and also the interest rates charged by the banks for different types of transaction. It rediscounts credit instruments with maturities not exceeding one year that are presented by the commercial banks, provided that the documents are related to the production, processing, or warehousing of agricultural or industrial products, cattle, or exports or imports of goods that are readily salable.

The commercial banks are required to maintain with the Central Bank minimum reserves against their deposits, but they may be authorized to keep part of their reserves in cash in their own vaults. For each class of deposit, the Central Bank is authorized to fix a legal minimum reserve within the limits of 10–50 per cent, and in certain circumstances to establish even higher percentages. This may be done, for example, for new deposits after a date specified by the Board of the Central Bank; however, interest up to 3 per cent must then be paid on supplementary reserves in excess of 50 per cent of deposits. Minimum reserve requirements are 20 per cent for sight deposits and time deposits withdrawable in less than 30 days and 10 per cent for

time deposits of more than 30 days. In addition, a bank is required to keep an 80 per cent supplementary reserve if its deposits exceed five times its capital.

The National Bank of Costa Rica and the three commercial banks are the country's sources of short-term credit. The National Bank is the main source of agricultural credit. To make its services available in every part of the Republic, it has developed and strengthened a network of 33 branch offices capable of rendering credit assistance and full banking services. The Bank also provides special credit facilities for small farmers through a large number (40) of local agencies, called Rural Agricultural Credit Boards. These Boards operate in the more isolated rural areas. To promote the activities of small farmers, the Bank has developed a Department of Cooperatives.

The National Production Council (Consejo Nacional de Producción) was established in 1948 to promote the production of basic foodstuffs. It was entrusted with the following functions: (1) coordination of the work of the government departments and the banks in order to develop and improve the production of basic consumer goods, raw materials, and any other commodity of vital importance to the national economy; (2) fixing minimum prices at which the Council will buy these products in order to guarantee the returns necessary for their continued production; (3) financing, entirely or in part, specific projects for the production or distribution of the products; and (4) financing any other project designed to meet emergencies that might affect the national economy. The Council maintains warehouses and storage plants in different places in the country, in order to facilitate the expansion of agricultural output.

There are also auxiliary credit institutions to facilitate the concentration of savings and the channeling of investments: The National Institute of Private Insurance (Instituto Nacional de Seguros), the Social Security Bank (Caja Costarricense de Seguro Social), the low-cost housing authority (Instituto Nacional de Vivienda Urbana), and the Costa Rican Electrical Authority (Instituto Costarricense de Electricidad).

The Central Bank is authorized to lend to the Commercial Department of the National Bank up to 80 per cent of the total portfolio of the Rural Credit Boards. It is also authorized to make loans with a maturity of up to 90 days to commercial banks, accepting government bonds as collateral (up to 80 per cent of their value), and special loans to the National Production Council against collateral of the agency's stockpiles and with additional government guarantee.

The Central Bank is authorized to establish credit ceilings for banks and for special categories of investment activity. These ceilings do not

mean that the commercial banks have access to the Central Bank for rediscount facilities of equivalent amounts. Rather, they are maximum quantitative and qualitative limits set by the Central Bank Board on the loan and investment portfolios of the commercial banks. For each bank, a general loan and investment ceiling is set; for special categories of economic activity, e.g., the Rural Credit Boards, the National Production Council, or the financing of the coffee crop, specific ceilings are set. These specific ceilings are supplementary ceilings designed to encourage the channeling of bank credit toward productive activities. Ceilings are changed periodically to take account of seasonal needs.

The principles that guide the Central Bank in establishing credit ceilings in Costa Rica are simple. As a general rule, the Bank takes the outstanding current account deposits of a commercial bank and adds to them the capital and reserves of the bank. Then it subtracts the minimum legal reserve requirement, and the ceiling is fixed as a percentage of the amount of net resources thus calculated. When conditions have permitted an expansion of credit, the ceiling has been fixed at 133 per cent of net resources. At other times, it has been set at 125 per cent. If a policy of credit restriction is believed to be advisable, the net total ceiling is set at an amount lower than net resources. In practice, this is equivalent to an increase in reserve requirements, the difference between the two methods being that an increase in reserve ratios may compel a bank to use rediscount facilities if its profits are to be maintained, while a credit ceiling as applied in Costa Rica permits a commercial bank to use its own resources. When, on the contrary, it seems advisable to expand credit, the Central Bank establishes special additional ceilings, generally on a selective basis.

The Central Bank is not permitted to negotiate government credit instruments (except in respect of open market operations) or documents related to long-term investments. It is authorized, however, to engage in open market operations in first-class securities (backed by physical assets) and treasury bills. It is empowered, when necessary for monetary reasons, to issue to the public monetary stabilization bonds with whatever terms it wishes.

A banking coordination committee which functions in accordance with the Central Bank law is composed of the managers of the commercial banks, the general bank auditor, and the manager of the Central Bank. This committee formulates recommendations for the functional and administrative coordination of the banks.

Some of the commercial banks are authorized to sell to the public bonds with maturity of five to ten years and to use the proceeds in medium-term and long-term operations for productive purposes. Since the bonds are regularly serviced by the banks, investors find them attractive. The Central Bank, however, sets a limit upon this kind of

loan, which automatically sets a ceiling for the bond issue. The Central Bank's purpose in fixing these ceilings is to maintain at all times a certain equilibrium between the supply and demand of savings and bonds, so that the value of the latter will be kept at par. The Central Bank has also promoted an increased capitalization of the commercial banks to enlarge credit facilities in a sound way. Through their own profits and through grants and capital increases which have been given at various times by governmental decrees, the capital of the commercial banks has been increased every year since their nationalization. As the credit ceilings are related to bank capital, the increases in capital in recent years have allowed the ceilings to rise. This has, in fact, been the most important factor in determining movements of the credit ceilings.

Since 1950, when the Central Bank was established, an environment of economic stability has been maintained in Costa Rica, although monetary developments have passed through different stages. During 1951–53, the Government had a substantial surplus, which gave the banking system increased resources for its operations; these resources were used only in part, however, to expand bank credit, so that there was also a significant increase in foreign reserves. During 1954–55, the Government was utilizing bank resources; but at the same time, these resources were expanding through increases in savings and other deposits. sales of bonds to the public, and substantial additions to bank capital. The policies of the Central Bank permitted an expansion of bank loans at the same rate as in earlier years, and reserves continued to increase, although at a slower rate than before.

From 1951 to 1955, the money supply increased by approximately ₡ 25 million per year. The expansion represented, on the whole, the normal increase in the money requirements of a rapidly growing economy, since there were no substantial price increases and foreign reserves continued to expand. Bank resources were augmented in 1951–53 by increases in government deposits and amortization and purchases of bank-held bonds of about ₡ 25 million per year. In 1954–55, on the other hand, when the Government no longer added to bank resources, savings deposits, other deposits, and bank capital were increasing by ₡ 30 million a year, and the banks were also selling bonds to the public in the amount of about ₡ 9 million per year.

Banking in El Salvador

In El Salvador, both the Central Reserve Bank (Banco Central de Reserva de El Salvador) and the Banco Hipotecario de El Salvador,

which is the largest bank in the country and deals primarily with the public, are privately owned but have some government participation in their management. The six private banks are Banco Salvadoreño, Banco del Comercio de El Salvador, Bank of London & South America, Banco Agrícola Comercial de El Salvador, Banco de Crédito y Ahorro, and Capitalizadora de Ahorros. The Banco Agrícola Comercial was established in 1955; and in that year, the Banco de Crédito y Ahorro and the Capitalizadora de Ahorros, which were savings institutions, were converted into commercial banks. There is also the Federación de Cajas Rurales de Crédito, a government-sponsored cooperative organization, with a network of branches throughout the country, which extends loans of limited size to small farmers. An autonomous Instituto de Fomento de la Producción (Production Development Institute), with an initial capital set at ₡ 3 million, was established by the Government late in 1955. It reportedly supplements the credit and financial facilities of the other institutions.

The Central Reserve Bank was created in 1934. It is the only bank that may issue currency in El Salvador, and it has the function of controlling and regulating the volume of credit in order to ensure the stability of the external value of the colón and to strengthen the liquidity of the commercial banks.[6] The Bank's capital is owned primarily by the Asociación Cafetalera de El Salvador (Coffee Association) and the private banks, but some private individuals are also shareholders. The Board of Directors consists of five members, one of whom is the President of the Asociación Cafetalera, and the others are elected by the general assembly of stockholders. The Board elects its president, who holds office for five years and is responsible for administering the bank. The only means whereby the Government can intervene in the operation of the Bank is through the provision that the person elected as president of the Board requires approval by the President of the Republic. The Bank's main office is in San Salvador. It has branches in Santa Ana and Sonsonate, and eight correspondents elsewhere in the country.

The Central Reserve Bank has not been granted the right to impose variable reserve requirements upon the commercial banks as an instrument of credit control. The legal reserve of 20 per cent for sight, time, and savings deposits originally prescribed in 1934 has not been changed. The Bank is authorized in conditions of emergency to grant exemptions from the minimum reserve requirement, but this authority has never been used.

[6] Decree No. 65 (June 19, 1934), Article 3; see *Ley de Fundación y Estatutos del Banco Central de Reserva de El Salvador* (San Salvador, El Salvador), p. 34.

The Banco Hipotecario is second in importance to the Central Reserve Bank. Of its total shares, 75 per cent is owned by the Asociación Cafetalera, 20 per cent by the Cattle Producers Association, and the remainder by private stockholders. The Government has provided the Bank with appropriations totaling about ₡ 10 million; but this sum is a contribution to the Bank rather than a part of its capital. The Government does not share in the profits of the Bank, and it elects only one of the five members of the Board of Directors. The main source of funds for the Bank is the sale of securities to the public. It also has access to rediscounting at the Central Reserve Bank. The bonds issued by the Bank pay interest at 5 per cent for 5-year issues, 5½ per cent for 10-year issues, and 6 per cent for 20-year issues. They are tax exempt and may be used as collateral for bank loans at 4 per cent, up to 90 per cent of their face value. As a result of these highly attractive features, the bonds have proved popular with the public. To some extent, they are also held by corporations and the other banks.

Most of the credit operations of the Banco Hipotecario consist of long-term urban and rural mortgage loans to prosperous property owners. As of June 30, 1956, the Bank had about ₡ 70 million in mortgage loans; of this total, ₡ 55 million represented *cédulas* in the hands of the public. The Bank has also helped to finance the Urban Housing Institute, a government agency in charge of low-cost housing projects.

In recent years, and especially since 1952, certain important banking reforms have been inaugurated. The Central Reserve Bank has been authorized to make cash advances to the Government up to 10 per cent of the annual average of treasury cash receipts in the previous three fiscal years (formerly advances to the Government were limited to 10 per cent of receipts from customs duties). It has also been authorized to make advances up to 90 per cent of their market value (formerly 76 per cent) on treasury bills issued by the Government with maturities not exceeding one year, and on fixed interest credit titles guaranteed by the Government and declared eligible by the Board of Directors of the Bank. A Securities Regulatory Fund (Fondo Regulador de Bonos) was created to promote a wider and more active market for securities and to stimulate the investment of savings in fixed-interest bearing securities. The main sources of finance for this Fund are (1) one half of the Central Reserve Bank's profits after deduction of reserves and dividends (which may not exceed 6 per cent per annum); (2) the portion of the Bank's special reserve fund which the general assembly of stockholders assigns to it temporarily; (3) idle government funds from budget surpluses or idle balances assigned by the Board of Directors of the Bank; and (4) profits realized from the Fund's operations. Another interesting new feature is that the Central Reserve

Bank has been authorized to issue its own bonds, Certificados de Participación, which represent a transfer to the private sector of government indebtedness to the Central Reserve Bank. This system gives to the Government access to Central Reserve Bank financing for public works projects without inflationary effects; to private investors, an opportunity to buy securities issued by the Central Reserve Bank, a private institution; and to the Central Reserve Bank, a tool for open market operations. Between 1952 and 1956 ₡ 13.1 million, or 44 per cent of the total amount of ₡ 29.8 million invested by the Bank in government securities, was matched by the issue of these certificates.

The money supply in El Salvador has increased steadily since early in the postwar period; by the end of 1956 it amounted to ₡ 225.5 million, almost twice the money supply at the end of 1950 (₡ 128 million). Increases in the domestic price level, however, have been less marked than the increase in the money supply; the wholesale price index (1950=100) was 106 in 1951, 100 in 1952, and 112 at the end of 1956. During these years, a stable and fully convertible currency was maintained.

The increase in the money supply has been due to two factors: the accumulation of reserves and the more active role played by the banks in extending credit. The increase in reserves may be attributed mainly to the better prices received for coffee. With expanded reserves, more credit has been available, but the monetary authorities have succeeded in channeling such expanded credit to those activities that are of greatest benefit to the economy.

The accumulation of reserves has continued since the beginning of World War II, when increased demand for coffee resulted in greater exchange receipts and the difficulties of transportation and the lack of market supplies reduced imports. Prior to 1952, however, the banking system increased deposits faster than credit, and the Central Reserve Bank exerted contractionary force. In certain periods, even the commercial banks maintained reserves that exceeded their loans.

Since 1952, both the Central Reserve Bank and the commercial banks have permitted credit expansion of such a magnitude that active steps have been taken to channel the expansion of credit toward economic development. Because of the participation of the banking system, savings have played an important role in the increase of electric power and in the program of low-cost housing construction. Through the use of credit, El Salvador has assured adequate supplies of staple foodstuffs in recent years and has increased its cotton exports.

Public participation in the purchase of mortgage bonds has facilitated the promotion of agriculture. In June 1956, a ₡ 10 million issue of

government bonds was purchased entirely by Salvadoran investors to finance the construction of a new port in Acajutla. It may be concluded that the monetary policy followed has made it possible to raise capital for well-planned projects in industry and agriculture. The cement factory, the soluble coffee plant, and the Banco Agrícola Comercial are striking examples.

Banking in Guatemala

The banking system of Guatemala includes the Bank of Guatemala (Banco de Guatemala), four privately owned commercial banks, and four state-financed institutions. The four private banks are Banco Agrícola Mercantil, Bank of London & South America, Banco de Occidente, and Banco Popular, which has been operating since 1955; a new private bank (Banco de América) is in process of organization. The four state-financed banks—Crédito Hipotecario Nacional de Guatemala, Instituto de Fomento de la Producción, Banco Nacional Agrario, and Banco del Agro—have specialized functions and, in one way or another, undertake banking operations.

The banking system was reorganized in 1945, and a series of laws was issued which had been drafted with the assistance of specialists from the Federal Reserve System of the United States. The main features of the laws have been summarized as follows:[7] "The new monetary legislation embraces a basic system, supplemented and qualified by emergency provisions to be applied only in cases of extreme shortage of international reserves. The features of the permanent part of the law which are probably of greatest interest are the following: (1) unification of monetary responsibility, for subsidiary coinage as well as for note issue, under a single authority; (2) provisions for changes in the parity of the currency in the case of fundamental external disequilibria in the economy of the country, and in accordance with the International Monetary Fund Agreement; (3) sterilization of revaluation profits and losses in mere bookkeeping accounts, in order to remove a strong bias toward currency depreciation, and to prevent the development of automatic domestic expansionary or deflationary pressures from a mere change in currency parity; (4) extension of the same principle to the commercial banks, in order to strengthen their position and discourage interest on their part in exchange speculation; (5) translation into concrete operational terms of the obligation as-

[7] "Monetary and Banking Reform in Guatemala," *Federal Reserve Bulletin* (Washington, D.C.), March 1946, p. 257.

sumed by the country, of the International Monetary Fund Agreement, to base gold and foreign exchange transactions on the par value of the currency. The emergency system of international transfers permits the application of some exchange restrictions, but only under concretely defined conditions, for strictly monetary purposes, and in nondiscriminatory forms preserving to a large extent the essential and automatic features of a free exchange market."

The salient characteristics of the central banking legislation have been summarized [8] as "(1) broad definition of the objectives of central banking policy, distinguishing between domestic and international aims; (2) guidance of monetary policy primarily by analysis of domestic developments, rather than in automatic response to changes in international reserves; (3) determination of open market powers and policies based on domestic requirements for monetary stability, provided that international reserves are adequate to meet external pressures; if international reserves are inadequate, reconsideration either of domestic policies or of the external parity of the currency; (4) introduction of a 'net international reserves concept'; and investment of international reserves designed to assure the prompt availability of any amount needed to finance deficits in the balance of payments while still providing the Bank, especially at times when anti-inflationary action is necessary, with sources of earning power other than domestic credit expansion; (5) definition of 'critical' level of reserves, related to balance of payments needs, rather than to domestic note issue or sight obligations, and avoidance of any rigid requirement which would make reserves legally unavailable in times of need; (6) distinction between temporary disequilibria in the balance of payments calling for compensatory action, and fundamental disequilibria calling for corrective action; (7) creation of an independent Monetary Board, in close coordination with the Ministries responsible for the formulation of governmental economic and financial policies, and endowed with policy making functions rather than with detailed responsibilities for individual operations; and corresponding decentralization of operating responsibilities; (8) integration of policies relating to money, credit (including bank supervision), and exchange (including the administration of emergency restrictions) under the authority and responsibility of the Monetary Board; and coordination of official and semi-official borrowings with monetary policy; (9) broad techniques of monetary control; (10) broad and flexible provisions with relation to reserve requirements, and power to apply special reserve requirements

[8] *Ibid*, p. 257.

against growth in aggregate deposits; (11) provision for the issue by the Bank of 'Stabilization Bonds,' designed to withdraw excess cash temporarily from the market, in times of inflationary pressures; (12) capital requirements varying in relation to risk-assets of the Bank, all excess profits to accrue to a Fund for the Regulation of the Official Bond Market; (13) development of a Government bond market through the operations of a special Fund for the Regulation of the Official Bond Market; (14) management of official accounts with a view to reinforcing monetary stabilization policies; (15) liberalization of rediscounting rules from strict and highly controversial 'commercial loan theory' criteria, in order to permit greater flexibility in the discharge of the Bank's responsibility as 'lender of last resort.' "

The legislation under which the Bank of Guatemala operates as a central bank is modern and complete. As defined by law, the main purpose of the Bank is to promote and maintain monetary, exchange, and credit conditions that are most favorable to the orderly progress of the national economy. Within the domestic economy, the Bank should adapt the money supply and credit policy to the legitimate needs of the country and to the development of productive activity, and prevent any inflationary, speculative, or deflationary tendencies detrimental to the general interests; promote the liquidity, solvency, and sound operation of the national banking system, and a distribution of credit adequate to the general interests of the national economy; effect the necessary coordination between the various economic and financial activities of the Government which influence the monetary and credit market, and especially between fiscal and monetary policy. In the international sphere, the Bank particularly must maintain the external value and convertibility of the quetzal, administer the international reserves of the country and the system of international transfers with the object of protecting the country from undue monetary pressures, and reduce, as far as adequate monetary and credit policies permit, the harmful effects that may be caused by seasonal, cyclical, or erratic disequilibria of the balance of payments upon the money supply, credit, prices, and economic activities in general, and safeguard the international economic equilibrium of the country and the competitive position of national producers in the domestic and foreign markets.[9]

The Bank operates under the direction of a Monetary Board composed of six members. The President and Vice-President are named for six-year terms by the President of the Republic; the Ministers of Finance and of Economy are also members of the Board. Of the re-

[9] *Ibid,* p. 270.

maining two members, one is named for six years by the University of San Carlos and the other for one year by the private banks. The Board names the Manager of the Bank and is fully responsible for supervision of the Bank as well as for the formulation of national monetary and credit policies.

In carrying out its obligations to apply broad techniques of monetary control, the Bank of Guatemala may determine its rediscount and interest rates, and it has authority to accept or reject applications for credit presented to it. It may influence the banking system as a whole by establishing minimum bank reserves; regulating the minimum proportions of capital and surplus which the banks must maintain in relation to specific classes of assets; establishing the maximum rates of interest; controlling the issue of obligations by the banks; and restricting the granting of bank credit. It has authority to guide the general policy of banking institutions of an official or semiofficial character; and to intervene in the open market, through the purchase, sale, or retirement of Stabilization Bonds issued by the Bank and the negotiation of securities issued by other entities. The Bank also manages the Securities Regulatory Fund and other official deposits. It is authorized to intervene in the credit operations of the Government and of public entities and it has a general authority as the Government's advisor and fiscal agent.[10]

The Crédito Hipotecario Nacional, the second most important banking institution of the country, was created in 1929 and operates principally as a commercial bank, with most of its credit going to agriculture on a short-term basis. It is a multipurpose institution with two main Departments—the Mortgage Department and the Commercial Department. The Mortgage Department includes a savings section, an urban housing section, and part of an agricultural section. The Commercial Department includes a general deposit warehouse and another part of the agricultural section. Other Departments are the Capitalization Department, which functions as a capitalization bank; the Insurance Department, which underwrites life and casualty risks; the Surety Department, which underwrites personal bonding contracts; and a Pawn-Shop Department.

The Instituto de Fomento de la Producción, a development bank, was established in 1948, and it is growing in importance. It has three Departments: Agricultural and Industrial Credit, Development, and Housing. The Banco Nacional Agrario was set up in mid-1953 to help finance the agrarian reform program; it was reorganized in 1956 as an

[10] *Ibid*, p. 283.

instrument for the extension of credit to small-scale agricultural producers in general.

Most of the private banks' operations with the public in Guatemala consist of short-term lending. As in other countries of the same degree of development, the resources available to the banking system for medium-term and long-term lending are limited.

The money supply in Guatemala increased by about 68 per cent between the end of 1950 and the end of 1956. This increase was accompanied by an expansion in output, and the rise in prices was less than 1 per cent per year. After changing very little between 1950 and 1954, foreign assets increased substantially during 1955 and 1956; by the end of 1956, they were almost double what they had been in 1950. Credit policies traditionally have been sound and cautious. In 1955, when the Government was entering into a phase of expanded public and private investments, studies were undertaken on the promotion of economic development through a more active monetary policy. An analysis of the total resources likely to be available to financial institutions through government and private savings was made in order to determine a satisfactory balance between adequate domestic credit and international reserves and an acceptable level of domestic prices.

At the end of 1956, a new scale of discount rates was approved by the Monetary Board, in order to encourage more intensively certain kinds of credit operation. Interest on loans for agricultural purposes was lowered. This was the first substantial change of interest rates since the beginning of 1954.

Banking in Honduras

The banking system of Honduras includes the Central Bank of Honduras (Banco Central de Honduras), three privately owned commercial banks—the Banco Atlántida, the Banco de Honduras, and the Banco de Occidente, a state-financed institution with a specialized purpose—the Development Bank (Banco Nacional de Fomento), and four privately owned savings institutions—the Banco de la Propiedad, Capitalizadora Hondureña, Ahorro Hondureño, and Capitalizadora de Ahorros. The last is a branch of a Salvadoran savings bank.

Until the establishment of the Central Bank, the right of note issue was vested in the two principal commercial banks, the Banco Atlántida and the Banco de Honduras. The former was originally established with U.S. capital in close cooperation with the Standard Fruit and Steamship Company, which still maintains a controlling interest. In

September 1953, this bank moved its headquarters from La Ceiba to Tegucigalpa; it has branches in San Pedro Sula, Tela, and Puerto Cortés. As a result of wartime and postwar developments and the rigid reserve requirements to which these two institutions were subject, they were unable to meet the country's need for currency, and the U.S. dollar was declared legal tender. U.S. fifty-cent silver coins—called lempiras in Honduras—constituted 70 per cent of the total currency in circulation, and Salvadoran colones and Guatemalan quetzales also circulated widely in the western provinces. This situation, as well as the long-felt need for a central monetary authority, led to the establishment of the Central Bank of Honduras in 1950.[11]

The Central Bank of Honduras and the Development Bank are wholly government owned. The legislation under which both organizations operate is modern and complete. It was drawn up with the technical assistance of the International Monetary Fund. The primary objective of the Central Bank, according to its by-laws, is "the promotion of such monetary, credit, and exchange conditions as are most favorable to the development of the national economy." The Central Bank has the traditional functions of a central bank, such as the sole right of note issue, the ability to act as bank of last resort for the commercial banks, the role of fiscal agent of and, within limits, lender to the national Treasury, and the right to centralize the country's gold and foreign exchange reserves. A noteworthy feature of the Central Bank legislation is the authorization given to its Board of Directors to act as government advisor on economic policy. The Development Bank is an autonomous institution whose purpose is to contribute to the development of production, so as to raise the living standards of the population.

The initial capital of the Central Bank of Honduras was fixed at L 500,000, all supplied by the Government. The Board of Directors is the supreme authority in the Bank. It considers and decides credit applications from the Government and from official entities, authorizes open market operations, etc. Half of the profits are devoted to capital increases and half to the establishment of a Securities Fund. The Bank has no minimum reserve requirements set by law. The Board of Directors is composed of five members, the President of the Bank, the President of the Development Bank, the Minister of Finance, one representative of private banks, and one representative of commerce, agriculture, and industry. The Government appoints the Presidents of the Central and Development Banks, as well as the Minister of

[11] For a fuller account of the events that preceded the establishment of the Central Bank of Honduras, see Paul Vinelli, *op. cit.*

Finance. The Central Bank serves as banker, fiscal agent, and economic and financial counsel for the Government. It receives government deposits and handles such banking transactions as the Government requires. According to the law, the Government must request the Bank's opinion before it can undertake domestic or foreign credit operations.

In addition, the Bank is endowed with broad powers of monetary management. It may establish maximum interest rates and fix the commissions that banks may charge in their operations with the public; it may require the banks to establish reserves against their deposit liabilities, and it may vary these requirements between 10 per cent and 50 per cent of total deposits. It may also establish reserve requirements against increases in deposits that occur after a certain date, up to the full amount of such increases.

The Central Bank is empowered to channel bank lending in directions which it believes to be in the national interest. Thus, it may establish differential rediscount rates, with lower rates for transactions that it wishes to encourage, and it may directly influence commercial bank lending by establishing fixed ratios between the capital and reserves of the commercial banks and the permissible volume of their lending in specific fields. The Bank is also authorized to engage in open market operations with a view to developing a capital market.

Exchange transactions may be carried out in Honduras only through the Central Bank or its authorized agents. Private citizens may hold, but not trade in, foreign exchange. The law assumes full exchange freedom, although there is an escape clause which would permit exchange control if needed.

The credit operations of the Central Bank consist of the discount, rediscount, purchase, and sale of all types of credit document held by banks, on condition that they have originated in transactions beneficial to the country's economy. The law specifies that the Central Bank may establish certain rules and regulations with respect to credits, but only within the limits laid down by the law. The law permits rediscounts of documents with maturities up to one year, and even rediscounts of longer maturities which are amortized, provided that the discount applies only to the portion of the loan maturing within one year. Rediscounting facilities are not automatic; the Board of Directors acts "with a view to the country's monetary situation, the conditions and needs of the credit market, and the situation and composition of the portfolios of the banks and of the Central Bank." No limit is set to the volume of rediscounts by any one bank.

The Central Bank may buy securities for its own account or for the account of the Securities Fund. Securities bought for its own account

are in the nature of extraordinary aid to the Government. The Bank may purchase government securities to a total of 15 per cent of average government receipts during the preceding three years. Such security purchases are made only when there is an abnormal decline in one of the main sources of government revenue or an abnormal increase in expenditures because of emergency. The percentage may be increased to 30 in extreme circumstances, when the Government needs to carry out compensatory fiscal policy. The Bank also may buy short-term treasury notes (maturing no later than one month after the end of the fiscal year in which they are issued) to a total of 15 per cent of average government receipts during the preceding three years. For investments in the Securities Fund, the Central Bank is to keep in mind two primary purposes—the development of a capital market and the development of economic activity. The Securities Fund receives part of the Bank's profits and may receive additional resources of the Government and official and semiofficial entities.

The Development Bank was capitalized by the Government with resources that were available in an accumulated fund. It receives each year from the Government 10 per cent of the customs surcharge and 15 per cent of revenues from the income tax. It is empowered to effect short-term (crop), medium-term (equipment), and long-term (mortgage) loans, receive deposits, issue securities, and effect all types of banking operations in general; to participate in the formation of all or part of the capital of private, public, or mixed enterprises, as well as to buy or guarantee obligations issued by such enterprises; to sell and market stocks and bonds of such enterprises as are cited above; to import, export, buy, sell, lease, store, and transport machinery, tools, working equipment, seeds, fertilizer, fruits, and products in general; and to perform any other activity or operation which contributes directly to the better accomplishment of its purposes.

Since the establishment of the Central Bank, natural and human factors have provided a significant test of the use of effective monetary policies in Honduras. From 1950 to 1953, balance of payments surpluses and the gradual replacement of foreign currency by lempiras as the principal means of payment brought about an expansion of the money supply with a subsequent increase in the price level. The Central Bank then restrained inflationary credit expansion and obtained government cooperation in the adoption of conservative fiscal policies, as a result of which part of the surpluses was offset by the accumulation of considerable deposits in the Central Bank. Price increases were slowed down. Later, there was some expansion of loans, and government investments were stimulated when the government surplus had a deflationary effect.

The Central Bank guaranteed some of the government bonds with a repurchase obligation at par. To make these papers attractive, special interest rates were approved by the Bank. When bonds are held by private banks, for example, the interest rate is lower than when they are held by the public, because the banks may use these bonds to replace cash as part of their legal reserves. As soon as the bonds are sold to the public, however, the rate of interest increases. In 1955 and 1956, the monetary policies of the Central Bank were aimed at curbing secondary expansion. The unusually severe weather in the winter of 1954 had destroyed plantations and brought about a considerable reduction of exchange receipts and a decline in fiscal revenue. When the need for rapid repairs of the damage caused by the winter was most urgent, a strike of agricultural workers—the most severe in Honduran history—paralyzed labor activities and delayed essential work. Notwithstanding these pressures, credit and monetary growth was restrained. Early in 1955, bank reserve requirements against sight deposits were raised from 25 per cent to 35 per cent. The 10 per cent increase could be held in government bonds. In 1956, there was again a trend toward an increase in liquidity of commercial banks, largely connected with fiscal financing operations; and at the end of the year, the Central Bank became concerned and acted to curb any secondary expansion of credit. Measures taken at the beginning of December included a lowering of the rediscount ceilings to the level of rediscounts then outstanding, except for coffee loans, and an increase in the interest rate on savings deposits, accompanying an increase in interest on the public debt decreed by the Government. At the same time, the Central Bank prevailed upon the banks to agree to limit their loan portfolios to the amounts outstanding on November 30, 1956, except for those loans which are considered by the Central Bank as being for productive purposes, such as financing of the coffee crop or of industry and agriculture. The general conclusion is that the Central Bank collaborated closely with the commercial banks in indicating the need for adequate credit policies which would not add to the inflationary or deflationary pressures generated in the public sector.

Banking in Nicaragua

The banking system of Nicaragua is composed of the National Bank of Nicaragua (Banco Nacional de Nicaragua), which is government owned, three private banks, two private banking houses, and several other financial institutions. Two of the three private banks, the Banco

Nicaragüense and the Banco de América, are Nicaraguan; the third is a branch of the Bank of London & South America. The banking activities of the two private banking houses—J.R.E. Tefel and Caley & Dagnall & Co. Ltd.—are very limited, as these institutions are concerned primarily with other matters to which their banking functions are subsidiary. One of them is engaged mainly in importing and, on a smaller scale, exporting. The other was incorporated as a commercial bank only in 1954 and is engaged almost exclusively in exporting coffee; advances are made to its producer clients in connection with its export business. The other financial institutions are the Institute of Economic Development (Instituto de Fomento Económico), the Mortgage Bank (Banco Hipotecario de Nicaragua, founded in 1931 with nominal capitalization, but expanded in 1933 with capital of C$3 million provided by the National Bank), the Popular Credit Bank (Caja Nacional de Crédito Popular), and the National Insurance Company (Compañia Nacional de Seguros); with the exception of the last, these institutions are government owned. The Institute of Economic Development is authorized to receive savings deposits and to make loans for productive purposes, but its operations began to be important only in 1956. During the last three years, seven small private institutions to finance private housing construction and promote savings have been established; two of these are also local insurance companies.

The National Bank of Nicaragua dominates the country's banking system. Through its Issue Department, it performs some of the functions of a central bank, particularly with regard to the issue of currency and the regulation of credit. It is also responsible for all foreign exchange operations, but it has authorized other banks to act as its agent in this respect. Through its Banking Department, it is the principal commercial bank of the country. It is also the banker of the Government and, by means of short-term and medium-term credits, it finances the greater part of the agricultural and livestock production for export and for domestic consumption. It operates an export and import department, the Overseas Mercantile Company, which in recent years has played an important part in Nicaragua's foreign trade, particularly in relation to coffee and cotton exports. Most of the remaining commercial banking is done by the three private banks, the Banco Nicaragüense, the Banco de América, and the Bank of London & South America. The two Nicaraguan banks, which came into existence in 1953, had about 20 per cent of the business in 1955; and the Bank of London & South America, which concerns itself primarily with the financing of foreign trade through documentary bills, had about 5 per cent. (The National Bank controlled about 75 per cent.)

The Issue Department of the National Bank is empowered to issue currency, both notes and coins, against gold, foreign exchange, or specified documents maturing in 90 to 180 days, or against documents with a maturity of up to one year, subject to a limit of 20 per cent of its total assets. Currency may also be issued against government securities subject, in ordinary circumstances, to a limitation of 10 per cent of the Issue Department's assets, but in extraordinary circumstances, without limit. (During the last six years there has been a steady reduction of government obligations to the National Bank.) The Issue Department does not hold government deposits, except for certain deposits denominated in foreign currency and other special deposits.

The Board of the Issue Department does not have the power to change the reserve requirements of commercial banks, which are set by law, but it does have the power to raise or lower the discount rate. The Department did not originally have capital of its own; the Bank's yearly profits were used to capitalize the Banking Department. The Exchange Law of 1950, however, provided that some of the exchange profits arising from the multiple exchange mechanism should be used to increase the capital of the Issue Department. Up to 1954, more than C$30 million was obtained from this source. This amount was doubled in 1955, when the par value was changed from C$5.00 per U.S. dollar to C$7.00 and the depreciation profits were added to the capital of the Bank. At present, the portfolio of the Issue Department is composed almost exclusively of rediscounts from the Banking Department and the private commercial banks. The deposits of the Issue Department represent the only legal reserve of the banking system, which is 16 per cent of demand deposits and 8 per cent of term deposits for private banks and 12 per cent of demand deposits and 6 per cent of time deposits for the Banking Department. The Exchange Law of 1950 required that advance deposits for imports be deposited in the Issue Department and thus provided some degree of monetary control.

The Banking Department—which, as noted above, is the principal commercial bank of the country—receives deposits from the Government and the private sector; it operates with these deposits and with rediscounts obtained from the Issue Department. Its agricultural and stock-raising loans considerably exceed its commercial loans. In contrast to the practice in many other countries more or less similarly situated, the Banking Department of the National Bank grants a substantial amount of agricultural credit—the so-called habilitation loans—and, as most of its deposits are repayable on demand, it relies heavily on rediscounts in the Issue Department. The Banking Department operates in fields that in other countries are financed entirely or substantially by private capital. A heavy demand for this credit

arises yearly, to finance a considerable part of the crops, especially those for export. A high proportion of total bank assets in Nicaragua, especially in the National Bank, consists of this type of loan, with a consequent serious inflexibility in bank credit.

When the National Bank of Nicaragua received official status in 1940, a new law gave it more specific functions, but not more resources. Since the Banking Department was to be a commercial, industrial, and agricultural bank, terms for loans were set as follows: 90 to 180 days for commercial loans, up to 360 days for agricultural loans, and up to three years for industrial loans. The Banking Department could operate with deposits from the Government and the public, except that 12 per cent had to be maintained with the Issue Department as a legal reserve. Paper of up to 180 days' maturity could be rediscounted at the Issue Department without limit, provided the funds were to be used for commercial or agricultural purposes. The main principle underlying the new law was the so-called organic issue doctrine, under which the central bank issues money in accordance with the needs of trade, the idea being that money issued in response to actual needs does not have inflationary effects. It was the 1940 law which incorporated the habilitation loans policy as an important part of the Nicaraguan banking legislation.

During World War II, Nicaragua faced, for the first time, demands for agricultural products other than coffee; and, with the aid of habilitation loans, some new products, among them sesame and rice, began to be produced and exported. The construction of the Pan-American Highway brought additional dollars to the country, and the lack of availability of consumer goods caused the easing of import control. Balance of payments surpluses during the war years were reflected in the accumulation of international reserves.

The end of the war again brought exchange difficulties. International reserves, which had increased to a peak of $9.7 million in 1944, began to be used rapidly as soon as consumer goods again became available abroad. A considerable part of the habilitation loans had become frozen, and early in 1947 the National Bank borrowed $4.5 million from the Bank of America in San Francisco, with collateral of an equivalent amount of gold. It was intended that the proceeds of this loan would be used to increase the loanable funds of the Mortgage Bank. The National Bank, however, transferred to the Mortgage Bank only 50 per cent of the proceeds of the loan in liquid resources, and the other 50 per cent in frozen credits. In this way, the liquidity of both banks was increased. Credit was then expanded rapidly. By the end of 1947, the international reserves of the National Bank were not more than $500,000. The National Bank made extensive use of its power to

grant commercial, agricultural, and industrial loans, and the Mortgage Bank granted credits for up to ten years. It appears that the Mortgage Bank was always interested in the type of property pledged for the loan, rather than in its use. The Government began using the resources of the National Bank to finance budgetary deficits in 1947, 1948, and 1949. A bad coffee crop in 1949 brought a renewed crisis. Unpaid import obligations were accumulated, and the National Bank, without adequate resources of its own, used its overdraft facilities with its foreign correspondents.

In April 1949, the credit policies of the National Bank were substantially revised. Commercial credit was curbed markedly, and other devices, such as advance deposits for imports and exchange surcharges, were established. At that time, it was realized that the National Bank law did not provide adequate tools for monetary control, and special measures were therefore enacted for that purpose.

Credit control measures were adopted in 1949 on the recommendation of an International Monetary Fund mission; the Nicaraguan authorities had already, on their own initiative, instituted in 1945 a requirement of prior advance deposits against licensed imports in order to avoid undue expansion of the money supply. This measure was maintained up to 1947. At that time, however, advance import deposits were made at the Banking Department of the National Bank, where they served as a basis for further credit expansion. It was only in 1949, when the Fund mission recommended that these deposits be turned over to the Issue Department, that it became clear that the old system defeated the anti-inflationary purposes for which the advance deposit requirement had been established.

The Decree of April 1949 classified commercial credits into four groups: import credits, credits for purchases of locally produced goods, credits for the mobilization of export commodities, and ordinary personal credits. For import credits and ordinary personal credits, terms were reduced to 90 days, and no renewals were permitted. For these credits, the National Bank set a ceiling, which was reduced gradually to levels not exceeding 50 per cent of the loans outstanding as of April 4, 1949. Maximum terms for credits to purchase locally produced goods were set at 180 days, and no renewal could be authorized. No ceilings were established for credits to obtain export commodities, but loans could not exceed 70 per cent of the value of the product, and collateral of the product was an indispensable requisite. These regulations have been maintained up to the present, and in the Exchange Law of 1950 another provision was enacted, under which private commercial banks are not permitted to increase credit for imports beyond the

levels prevailing at the end of 1950. To the extent to which commercial credit was restricted by the implementation of these regulations, habilitation loans increased. Since 1950, on the other hand, budgetary surpluses have been accumulated, and the expansion of agricultural credit has not caused any undue expansion of the money supply.

The expansion of cotton production since 1951–52 has required considerable financing. The National Bank arranged the purchase of 263 tractors with financial help from the International Bank for Reconstruction and Development, and in 1953 it financed 161 more tractors from its own resources. These tractors were sold to cotton producers by financing their cost under three-year and five-year loans. Through the use of these tractors and other equipment, the area devoted to cotton cultivation was approximately doubled between 1952 and 1953, and again between 1953 and 1954.

On April 1, 1954, the National Bank informed the private banks that its discount rate for commercial credits would be immediately raised from 5 per cent to 6 per cent, thereby inducing the commercial banks to hold larger amounts of commercial paper in their own portfolios. It also ordered commercial banks to reduce their portfolios of commercial credit for imports over a period of three months to the level prevailing in each bank at the end of 1953. Nevertheless, the rapid expansion of credit continued in 1954 and 1955, and with it production of cotton was further increased. In 1955 cotton exports reached their highest level, but the 1956 crop was reduced by unfavorable weather conditions. Credit could not be reduced in time and exchange resources had to be used. The credit policies of Nicaragua were being carefully revised in 1957 with a view to rebuilding reserves.

The Fund Agreement in the Courts—V

Joseph Gold *

THIS ARTICLE DISCUSSES four cases which have been decided by courts in Hong Kong, Germany, Luxembourg, and the United States (New York) in the period 1949 to 1958. All of the cases deal with the unenforceability of certain exchange contracts under Article VIII, Section 2(b), of the Articles of Agreement of the International Monetary Fund.

1. Hong Kong Case

In *White v. Roberts*, decided by the Hong Kong Supreme Court on November 3, 1949,[1] the plaintiff and a partnership of the defendant and one Baeten had been foreign exchange brokers in Shanghai. The plaintiff, on behalf of his clients, had entered into numerous contracts with the partnership in Shanghai under which the plaintiff paid Chinese currency in return for payment by the partnership of specified foreign currency to a named person in another country. In January 1948, the plaintiff and defendant, fearing that their dealings in foreign exchange had been discovered by the Chinese authorities, removed themselves to Hong Kong, where the plaintiff brought an action on twelve of the contracts made in Shanghai under which the partnership had defaulted by failing to provide the stipulated foreign currency. The contracts had called variously for the payment of U.S. dollars in the United States, sterling in the United Kingdom, or Hong Kong dollars in Hong Kong. The plaintiff claimed to recover from the defendant approximately one million Hong Kong dollars, with an alternative claim of damages for breach of contract. The parties agreed that the contracts were governed by Chinese law. The defendant denied that he had been in partnership with Baeten during the period when the contracts were made, and pleaded that they had been made with

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[1] 33 Hong Kong Law Reports (1949), pp. 231–82. Annual Digest and Reports of Public International Law Cases, Year 1949, pp. 27–36.

Baeten only. The Court held that this defense failed, and that the contracts had been entered into by the defendant and Baeten as partners. The Court found that on this issue, and apart from the other issue raised by the defendant, he would be liable under both Chinese and Hong Kong law for breaches of the contracts or alternatively for money had and received. The defendant pleaded further that the contracts were illegal and criminal under Chinese law, and therefore that any money paid by the plaintiff under them could not be recovered under the laws of China or Hong Kong either as damages for breach of contract or as money had and received.

The defendant's second plea relied upon certain foreign exchange control regulations of the Central Bank of China promulgated in August and December 1947. The August regulations provided that all foreign exchange dealings must be through appointed banks or licensed brokers and at rates established by the Foreign Exchange Equalization Fund Committee appointed by the Central Bank. Confiscation of foreign exchange and imprisonment were prescribed as penalties for others dealing in foreign exchange. The December regulations closely followed the August regulations except that no provision was made for dealings through licensed brokers. The Court found that eleven of the contracts violated the August regulations, and the twelfth the December regulations. The Court came to the following conclusion:

> . . . Counsel for the defendant relied on *Article VIII Section 2(b) of the Bretton Woods Agreements.* It is admitted that both China and the United Kingdom are signatories to these agreements which agreements were for the establishment of an international body to be called the International Monetary Fund, and another body with which we are not here concerned. In both cases, the year of signature was 1945. On the 10th January, 1946, the Bretton Woods Agreements Order-in-Council St. R. & O. No. 36 provided that portion of Article VIII section 2(b) was to have the force of law. The Order is applicable to Hong Kong. The part of Article VIII section 2(b) which has the force of law reads:—
>
> "Exchange contracts which involve the currency of any member and which are contrary to the exchange control regulations of that member maintained or imposed consistently with this Agreement shall be unenforceable in the territories of any member."
>
> Counsel also quoted in support Dicey's Conflict of Laws page 750 where the learned author states under Rule 166 that a contractual obligation may be invalidated or discharged by exchange control legislation if such legislation is part of the proper law of the contract. He referred also to *Frankman v. Prague Credit Bank (1948) 1 K.B. 730* where Article VIII section 2(b) was held applicable. This case was later reversed on appeal and argument as to the applicability of Article VIII section 2(b) was abandoned.
>
> Counsel for the plaintiff submitted that even if Article VIII section 2(b) of the Bretton Woods Agreements was applicable to the case, it merely provided that such contracts were not enforceable in our Courts: it did not go on to provide that money paid under such contracts could not be recovered. Therefore, even if plaintiff failed on his action for breach of contract, he should still recover in an action for money had and received. . . .

. . . I do not agree with the contention of Counsel for the plaintiff that, because Article VIII section 2(b) of the Bretton Woods Agreements states only that the Court will not enforce exchange contracts contrary to the laws of a foreign country, I ought not to hold that plaintiff should not succeed in an action for money had or received. It is immaterial in such a case whether plaintiff relies on the breach of contract or on an action for money had and received: if the circumstances of the case show that there was illegality, then in my view he cannot succeed.

I agree with the submission of Counsel for the defendant that, these contracts being illegal by the law of China, this Court ought to do nothing to enforce them both on the grounds of public policy and because of the provisions of Article VIII section 2(b) of the Bretton Woods Agreements.

I hold that plaintiff fails in his claim and I give judgment for defendant. Plaintiff to pay ⅔ of defendant's costs.

White v. Roberts is of interest for a number of reasons. It is one of the earliest cases involving the application of Article VIII, Section 2(b), and indeed seems to be the first in which the decision was based squarely on that provision, although equal weight was given to the principle that the contracts were illegal under Chinese law, the law governing them under the private international law of Hong Kong. In dealing with Article VIII, Section 2(b) most courts have taken confidence from the fact that the law of the member whose currency was involved under that provision was also the governing law under traditional private international law. There is probably no case so far in which a contract which was enforceable under what was found to be the governing law under private international law, was nevertheless declared unenforceable because of the provision, although it is significant that in the Hamburg case discussed in an earlier article[2] the Court appears to have found it unnecessary to determine what was the governing law under traditional private international law. Moreover, in *In re Sik's Estate*[3] the Surrogate's Court of New York found that the contract was unenforceable under New York law, the governing law, but nevertheless went on to consider the effect of Yugoslav exchange control regulations. However, it found that there was justification for not obtaining the license required by these regulations, and the enforceability of the contract was upheld.[4]

Perhaps the most interesting feature of *White v. Roberts* is that, having found that the contracts were unenforceable, the Court then decided that the plaintiff could obtain neither damages for nonperformance nor the return of the monies, or their equivalent, that he had paid under them. In short, the plaintiff was unable to base a remedy

[2] Joseph Gold, "The Fund Agreement in the Courts—IV," *Staff Papers*, Vol. 5 (1956–57), pp. 297–301.
[3] 205 Misc. 715, 129 N.Y.S. (2d) 134 (1954).
[4] J. Gold, *op. cit.*, pp. 289–92.

either on the unenforceable contracts or on the monies that he had paid pursuant to those contracts. The same conclusion was reached in *Lessinger v. Mirau,* which is discussed next.

2. Schleswig Case

Lessinger v. Mirau, decided by the Schleswig-Holstein *Oberlandesgericht* in Schleswig on April 1, 1954,[5] is, in essential respects, similar to *White v. Roberts.* The parties, who were Austrian citizens, concluded a contract in Vienna on May 1, 1949 under which the plaintiff was to provide 30,000 Austrian schillings to enable the defendant and one Karplus to try out a system of roulette in the casino at San Remo. What the plaintiff actually provided was a sum of US$1,000, the equivalent of the Austrian currency referred to in the contract. This payment was made without the consent of the Austrian exchange control authorities and was thus in violation of Austrian regulations. The plaintiff was to receive 30 per cent of the profits but was not to participate in any losses. The defendant and Karplus guaranteed the plaintiff that he would receive a minimum of 3,000 Austrian schillings each month. They also undertook to pay the profits and repay the capital to the plaintiff or his representative in Vienna, Switzerland, or Italy, at the election of the plaintiff, and they provided certain instruments as security for these obligations. The money advanced by the plaintiff was lost, and he had never received any payment or repayment. The defendant left Vienna for Travemünde in Germany, where he took a position at the local casino and finally became technical superintendent of gambling. The plaintiff brought an action in the Landgericht of Lübeck, in which he asked that the defendant be ordered to pay the equivalent in German currency of US$1,000 and interest into a blocked account in the plaintiff's name. The Lübeck Court dismissed the plaintiff's claim, and he appealed.

The *Oberlandesgericht* decided that the loan contract was governed by Austrian law, and that Austrian law included exchange control regulations which had been violated by the parties. The Court examined and rejected various arguments for refusing to recognize the exchange control regulations of Austria. It continued:

> Frequently, the refusal to apply foreign exchange control law has been based on the principle of public policy. . . . It has been argued that foreign exchange laws enacted for the protection of the foreign currency would encroach upon

[5] Unreported. The case is the subject of a note and learned discussion by Hartwig Bülck, *Jahrbuch für Internationales Recht,* Vol. 5, Part 1 (1955), pp. 113–23. Dr. Bülck has very kindly supplied a transcript of the case.

creditors' vested rights and are thus incompatible with domestic legal philosophy. . . . Since the war this view has gradually been replaced by the contrary opinion. Since nearly all states have introduced some form of regulation of their exchange resources, the opinion has gained strength that in the present state of the world economy restrictions on the use of exchange resources by individual states are inevitable. Accordingly, more than fifty states [6] have gradually ratified the Bretton Woods Agreements of 1944. The Federal Republic of Germany and Austria have also joined the Fund . . . Article VIII, Section 2(b), first sentence of this Agreement, provides in the official German translation:

> "Aus Devisenkontrakten, die die Währung eines Mitglieds berühren und die in Gegensatz stehen zu den von dem Mitglied in Ubereinstimmung mit diesem Abkommen aufrechterhaltenen oder eingeführten Devisenkontrollbestimmungen, kann in den Gebieten der Mitglieder nicht geklagt werden."

Accordingly, the members have obligated themselves under Article VIII, Section 2(b), second sentence—"to cooperate in measures for the purpose of making the exchange control regulations of either member more effective, provided that such measures and regulations are consistent with this Agreement." It is true that jurisprudence has so far been reluctant to apply Article VIII of the Fund Agreement. . . . Yet, it is not clear why Article VIII . . . should not obligate German courts to apply Austrian foreign exchange law to cases like the one under consideration. Undoubtedly, the contract of loan is a contract in the sense of Article VIII. . . . It is also an exchange contract within the meaning of this provision. Exchange contracts are contracts which affect the currency of a member (Mann, *Der Internationale Währungsfonds und das Internationale Privatrecht* JZ 1953, p. 444). This interpretation is the only one compatible with the purpose of the regimentation of foreign exchange resources. In any event, however, in view of our own German foreign exchange laws, German public policy is no basis which would justify a rejection of the application of Austrian law in its entirety, i.e., including the foreign exchange provisions concerning the effects of violations of exchange control regulations under civil law. . . . (*Translation*)

The Court concluded, therefore, that, since the loan contract was void under Austrian exchange control regulations, it would not support a claim for repayment of the amount lent. Furthermore, the plaintiff could not recover on the basis of unjust enrichment. That claim was subject to Austrian law. Under that law, restitution of commodities or foreign exchange transferred notwithstanding a prohibition of law was decreed only where restitution would further the purpose of the prohibition. Since the defendant no longer retained the foreign exchange that he had received, he could not return it to the Austrian economy. The purpose of the Austrian prohibition of the illegal export of foreign exchange was not the indemnification of the payer who disregarded the law. Therefore, the plaintiff failed on this part of his case also.

The conclusion reached by the Schleswig Court was thus the same as in *White v. Roberts,* namely that the plaintiff could succeed neither on the contract nor on the basis of some quasi-contractual principle.

[6] This refers to the date of the judgment. On June 1, 1958, there were 67 members, with other applications for membership pending.

In both cases, the Court relied equally on Article VIII, Section 2(b), and on private international law. In both cases, the contracts related to currency. In *White v. Roberts* they provided for exchange transactions, and in *Lessinger v. Mirau* an advance of currency was to be repaid together with a share of the profits resulting from the use of the currency. However, there is one feature of the decision in *Lessinger v. Mirau* which is of special interest, and this is its bearing on the meaning of the words "exchange contracts" and "involve the currency" in the provision.

On these elements in Article VIII, Section 2(b), two polar views have been expressed. Professor Nussbaum's view may be taken as typical of a conservative approach to the interpretation of these words, and Dr. Mann's as typical of a liberal attitude. Professor Nussbaum has said that "exchange contracts" are those which have international media of payment as their immediate or exclusive object, so that contracts involving securities or merchandise are excluded except where they are monetary transactions in disguise. A currency is "involved" if it is a medium of payment with which the contract deals or to which it refers.[7] These views have been endorsed most recently by the editors of the seventh edition of *Dicey's Conflict of Laws*,[8] the classic English text on private international law. Dr. Mann, on the other hand, interprets "exchange contracts" to mean those contracts which affect the exchange resources of a country, and the currency "involved" is that of the country whose resources are affected.[9] In his article in the *Juristenzeitung*,[10] to which the court in *Lessinger v. Mirau* referred with approval, Dr. Mann wrote:

> According to a third suggestion "exchange contracts" are contracts which in any way affect a member's exchange resources [see paragraph 2 below]. This definition is probably closest to the intentions of the drafters, but does have the disadvantage that it makes the word "exchange" redundant; in order to express the idea the provision could have referred simply to "contracts which involve the currency of any member." One cannot lightly decide to ignore an important word, and thereby act against all rules of interpretation. Yet, this objection, grave though it may be, is out-weighed by the fact that no other interpretation would achieve the purposes of the Agreement.
> 2. As was pointed out above, exchange contracts "which involve the currency of any member" are contracts which affect the currency resources of a member. It is not so much the denomination of a debt in a particular currency that matters, but the prejudicial effect which a transaction may have upon a member's financial position and which, by international co-operation, the members

[7] A. Nussbaum, *Money in the Law, National and International* (Brooklyn, Rev. ed., 1950), pp. 542–44.
[8] *Dicey's Conflict of Laws* (ed. J. H. C. Morris and others, London, 7th ed., 1958), pp. 923–24.
[9] F. A. Mann, *The Legal Aspect of Money* (London, 2nd ed., 1953), p. 382.
[10] F. A. Mann, "Der Internationale Währungsfonds und das Internationale Privatrecht," *Juristenzeitung* (Tubingen), Vol. 8 (1953), pp. 442–46.

have attempted to preclude. Gold, securities of whatever denomination, even land, moveables or intangibles, may be the subject matter of exchange control and their disposition may "involve the currency of a member." There is no reason why in a document of this kind, "currency" should not be construed in the broad sense of economics rather than in a strictly legal sense. (*Translation*)

In *Lessinger v. Mirau,* the contract did not provide for an exchange transaction in the ordinary sense, but it was a monetary transaction because currency was what the plaintiff rendered and was to receive in consideration. The plaintiff was to pay an amount of money expressed in Austrian currency, although in fact paid in U.S. dollars, and he was to receive this amount back together with profits in Vienna, Switzerland, or Italy, and, presumably, therefore in the legal tender of the place of payment selected by the plaintiff. Thus, currency was the immediate, although in one sense not the exclusive, object of the contract, and Austrian currency was certainly "referred" to. The Court could easily have taken a conservative approach to the interpretation of the provision and still have decided as it did. It preferred instead to support the wider view of Dr. Mann as the "only one compatible with the purpose of the regimentation of foreign exchange resources." [11]

It may be of interest to return for a moment to the question of recovery in quasi-contract. In both *White v. Roberts* and *Lessinger v. Mirau,* the denial of a quasi-contractual remedy seems to have been based on the fact that the contracts were illegal under the exchange control regulations which the parties had failed to observe, and not on any close analysis of the concept of unenforceability or other elements in Article VIII, Section 2(b). In *Lessinger v. Mirau,* it is quite clear that the law under which the exchange control regulations were imposed was referred to as the law governing the quasi-contractual claim under the private international law of the forum, and this was probably the position in *White v. Roberts* also.

The conclusion reached by both Courts on the issue of the quasi-contractual claim promotes the general policy of the provision to discourage the making of contracts in disregard of exchange control regulations. Obviously, parties would be encouraged more frequently to take their chances in connection with such contracts if the risks were reduced. There could be no better way of eliminating risks than to assure a party that, if he fails to enjoy the performance of a contract that is unenforceable because it is contrary to exchange control regulations, he will thereupon be helped to recover the consideration that he has paid under the contract. Moreover, in some cases, a quasi-contractual remedy would be tantamount to the enforcement of the contract that

[11] Dr. Mann's article was referred to with approval in the Hamburg case as well. See J. Gold, *op. cit.,* pp. 298–99.

is to be treated as unenforceable. For example, if A receives francs from B and promises to pay sterling to B in violation of French exchange control regulations, an action in quasi-contract by B in England for the francs had and received by A would result, if successful, in a judgment in sterling.[12] If one ignores any difference that might be involved in the applicable rate of exchange, this would be precisely what the parties had sought by their unenforceable contract. At the same time, it should be noted that in some cases the denial of a quasi-contractual remedy may not be helpful to the economy of the country of the currency involved. For example, in *Lessinger v. Mirau,* if it is assumed that the plaintiff remained a resident of Austria, which seems to have been the case, restitution to him of the dollars that he had paid, if that were possible, or even the equivalent in the curreney of the forum, would have restored resources, or their equivalent, to the Austrian economy. Nevertheless, the consideration of discouraging parties from disregarding exchange control regulations is a broader one and is more likely to be beneficial to members of the Fund in the long run. It is submitted, therefore, that the result in *White v. Roberts* and *Lessinger v. Mirau* should be approved.

3. Luxembourg Case

In *Société 'Filature et Tissage X. Jourdain' v. Epoux Heynen-Bintner,* decided by the *Tribunal d'Arrondissement de Luxembourg (Civil)* on February 1, 1956,[13] proceedings were brought to obtain execution in Luxembourg of a judgment rendered by a French court, *le tribunal de première instance de Mulhouse.* On November 19, 1946, the Jourdain Company, a French firm, sold to Stangé, a resident of Luxembourg, seven bales of poplin for 641,685 French francs. The French authorities gave the necessary export and exchange control authorizations. On March 31, 1947, one Wolff, a resident of France, paid the Jourdain Company the contract price in French francs on behalf of Stangé. The Jourdain Company sued Stangé for this sum in the Mulhouse Court. French exchange control regulations provided that a franc payment from abroad must be made by debit to a foreign franc account opened in France in the name of the foreign debtor or his bank. The Mulhouse Court concluded that the payment by Wolff,

[12] Cf. *Boissevain v. Weil* (1950), A.C. 327, particularly at p. 341. This case, however, did not fall under Article VIII, Section 2(b), because the English courts were concerned with the application of British exchange control regulations.

[13] *Pasicrisie Luxembourgeoise* (1957), pp. 36–39.

which was not in accordance with French exchange control regulations, could not discharge Stangé, and thus gave judgment for the Company. In the Luxembourg proceedings, the defendants, who were the heirs of Stangé, argued that the Court should not decree execution of the Mulhouse judgment because the French exchange control legislation on which it was based was contrary to the public policy of Luxembourg.

The Luxembourg Court rejected this argument:

> The contract between the Jourdain Company and Stangé constitutes an exchange contract within the meaning of Article VIII, Section 2(b) of the Articles of Agreement of the International Monetary Fund;
>
> Pursuant to this provision exchange contracts which involve the currency of a member and which are contrary to the exchange control regulations of that member, maintained or imposed consistently with this Agreement are unenforceable within the territories of other members;
>
> By virtue of the authority conferred by Article XVIII of the above Agreement the Fund has interpreted the meaning and purpose of Article VIII, Section 2(b), as follows: (1) The parties to an exchange contract involving the currency of another member of the Fund and contrary to the exchange control regulations of that member, which are maintained or introduced in accordance with the Fund Agreement, may not receive the assistance of the judicial or administrative authorities of other members in order to obtain the execution of such contracts. . . . (2) In accepting the Articles of Agreement members undertook the obligation to incorporate the above-mentioned principles into their national law. An obvious result of this obligation is that if one party to an exchange contract of the category envisaged by Article VIII, Section 2(b), demands the execution of such a contract the tribunal of the member before which the action is brought may not on the grounds that these regulations are contrary to the public policy of the forum refuse effect to the regulations of the other member which are maintained or introduced in accordance with the Fund Agreement. (See *L'application des Statuts du Fonds Monétaire par les tribunaux*, by Joseph Gold: *Revue critique de droit international privé*, 1951, pages 586 and 587);
>
> Since by the law of December 24, 1945, the Grand Duchy of Luxembourg approved the draft agreements contained in the Final Act of the Monetary and Financial Conference of the United Nations held at Bretton Woods from July 1 to 22nd, 1945, relating to the creation of the International Monetary Fund and the International Bank for Reconstruction and Development, the domestic courts are bound by the Fund Agreement and may not refuse to apply exchange control regulations of a member of the Fund which have been created or are being maintained in accordance with this Agreement, for the reason that they go against internal public policy. (See *Réglementation des changes en droit international privé* by Berthold Goldmann; report published in *"Le contrôle des changes, ses répercussions sur les institutions juridiques"* by Joseph Hamel, André Bertrand et René Roblot, pages 46 sq.; *"De l'élimination des conflits de lois en matière monétaire réalisée par les statuts du Fonds Monétaire International et de ses limites"* by G. R. Delaume, published in the *Journal de Droit International*, 1954, pages 332 sq.; Decision of *Perutz v. Bohemian Discount Bank in Liquidation* with note by Joseph Gold and G. R. Delaume, published in the *Journal de Droit International*, 1953, pages 796 sq.);
>
> As France is a member of the International Monetary Fund and as Articles 10 and 11 of the French Decree of July 15, 1947 have not been introduced or maintained in violation of the Fund Agreement, these provisions may not be considered contrary to the public policy of Luxembourg; it follows that the motion made by the defendants . . . is without merit. (*Translation*)

Two features of this case should be noted. First, the Luxembourg Court treated it as one which unquestionably fell within the scope of Article VIII, Section 2(b). However, the basic issue was not the enforcement of a contract which was contrary to French exchange control regulations—the contract had been authorized by the appropriate French authorities—but the recognition as a discharge of a purported payment which was contrary to those regulations. The Luxembourg Court refused to recognize that this payment was a discharge. The result is logical because if the contract had expressly provided for payment as made by Wolff, the contract would clearly have been unenforceable under Article VIII, Section 2(b).

Secondly, the Luxembourg Court held that the contract was an "exchange contract." It will be noted, however, that it was not a contract in which international means of payment were the immediate and exclusive object. It was a contract involving merchandise on one side and currency on the other.

The Luxembourg case suggests another issue. Article VIII, Section 2(b), provides that the exchange contracts there referred to shall be unenforceable "in the territories of any member." Suppose that a party to a contract which would be unenforceable in the courts of a member country sues on it and obtains a judgment in a court in a nonmember country. Suppose then that the plaintiff sues on the judgment in a court in a member country. The private international law of many countries provides that, in certain circumstances, foreign judgments are conclusive and enforceable. If the judgment were treated in this way in the circumstances that have been imagined, the policy of Article VIII, Section 2(b), would be frustrated. However, foreign judgments can frequently be impeached on the basis of the public policy of the forum which is asked to enforce the judgment. The Luxembourg case involved the judgment of a court in another member country, and decided that the judgment could not be refused enforcement because it was based on the foreign exchange control legislation of that other member country. It is significant, however, that the Luxembourg court was willing to examine the question whether the foreign judgment offended Luxembourg public policy. Therefore, since it must now be considered part of the public policy of member countries to refuse enforcement of the contracts covered by Article VIII, Section 2(b), it would seem that in the case that has been supposed the foreign judgment would not be enforced.

4. New York Case

In *Southwestern Shipping Corporation v. National City Bank of New York,* decided by the New York Supreme Court,[14] a court of first instance, on March 17, 1958, the plaintiff sued to recover $37,222 paid by the defendant to Anlyan in October 1951 pursuant to instructions from the Bank of Italy, Milan, to the defendant. The plaintiff claimed that the money should have been paid to it and not to Anlyan. The dealings on which this claim was based were these. In September 1951, Garmoja, an Italian entity, made an arrangement with Corti, another Italian entity, under which Garmoja paid approximately 23 million lire to Credito-Lombardo, an Italian bank, for the account of Corti. Corti then instructed Credito-Lombardo to transmit $37,222 to Anlyan in New York, who, before that transfer, was to assign the dollars to the plaintiff in New York. The plaintiff was to hold the money for Garmoja. Anlyan did assign the dollars to the plaintiff before the transfer to Anlyan, and the plaintiff notified the defendant of the assignment. The defendant promised to pay the sum to the plaintiff but nevertheless paid it to Anlyan.

The defendant pleaded that the arrangement between Garmoja and Corti was an agreement for the purchase and sale of foreign exchange which violated Italian exchange control legislation; and further that the agreement and the attempted transfer from Anlyan to the plaintiff were unenforceable because they were contrary to the public policy of the United States and the State of New York.

The New York court found that Italian exchange control legislation from 1934 to the date of the trial required that a license must be obtained from the Italian exchange control authorities for the dealings that have been described. A license had not been obtained, and the arrangement and attempted assignment were illegal, void, and unenforceable in Italy.

The plaintiff argued that its case was predicated, not on the Garmoja-Corti agreement or the Anlyan-plaintiff assignment, but on its independent contract with the defendant, the National City Bank. The plaintiff relied on a principle that a bargain collaterally and remotely connected with an illegal purpose or act is not rendered illegal thereby if proof of the bargain can be made without relying upon the illegal transaction. The New York Court held that either there was no proof at all of the alleged independent contract between the plaintiff

[14] 173 N.Y.S. (2d) 509.

and the defendant or the only proof necessarily involved the preceding illegal arrangements.

The Court decided as follows:

. . . With these established facts in mind, our courts, under the Bretton Woods Agreement, are expressly prohibited from furnishing any assistance to the enforcement of any agreements made in violation of the Foreign Exchange Control Laws of Italy. Article VIII, section 2(b) of the Bretton Woods Agreement provides as follows:

"2(b) Exchange contracts which involve the currency of any member and which are contrary to the exchange control regulations of that member maintained or imposed consistently with this Agreement shall be unenforceable in the territories of any member."

The Board of Directors of the International Monetary Fund on August 18, 1949,[15] issued an interpretation of the above quoted Article VIII, section 2(b) of the Bretton Woods Agreement which provides in material part as follows:

"The meaning and effect of this provision are as follows:
'1. Parties entering into exchange contracts involving the currency of any member of the Fund and contrary to exchange control regulations of that member which are maintained or imposed consistently with the Fund Agreement will not receive the assistance of the judicial or administrative authorities of other members in obtaining the performance of such contracts. That is to say, the obligations of such contracts will not be implemented by the judicial or administrative authorities of member countries, for example, by decreeing performance of the contracts or by awarding damages for their non-performance.
'2. By accepting the Fund Agreement, members have undertaken to make the principle mentioned above effectively part of their national law. This applies to all members, whether or not they have availed themselves of the transitional arrangements of Article XIV, Section 2.

An obvious result of the foregoing undertaking is that if a party to an exchange contract of the kind referred to in Article VIII, section 2(b) seeks to enforce such a contract, the tribunal of the member country before which the proceedings are brought will not, on the ground that they are contrary to the public policy (ordre public) of the forum, refuse recognition of the exchange control regulations of the other member which are maintained or imposed consistently with the Fund Agreement. It also follows that such contracts will be treated as unenforceable notwithstanding that under the private international law of the forum, the law under which the foreign exchange control regulations are maintained or imposed is not the law which governs the exchange contract or its performance.' "

And the Board of Directors of the Fund have by letter dated August 8, 1957, addressed to the Secretary of the Treasury of the United States (Defendant's Ex. V in evidence) determined that the six Italian Decree laws upon which Dr. Rava based his opinion have since Italy joined the Fund on March 27, 1947, and particularly during the year 1951, been maintained and imposed consistently with the Bretton Woods Agreement.

Both the United States and Italy are parties to the Articles of Agreement of the International Monetary Fund (Bretton Woods Agreement), effective December 27, 1945. This agreement was accepted by the United States on December 20, 1945, and by Italy on March 27, 1947.

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[15] The Fund addressed this interpretation to members on June 14, 1949. It was published in the United States by the National Advisory Council on International and Monetary Problems in the Federal Register of August 19, 1949, pp. 5208–9.

> Even in the absence of the Bretton Woods Agreement, I must conclude that the cited authorities are determinative of the legal issue presented and that plaintiff cannot recover, as a matter of law, in a case such as this, if, as part of its case, plaintiff is required to allege and prove an unlawful act. The rule is succinctly stated in Stone v. Freeman, 298 N.Y. 268, 82 N.E. 2d 571, 8 A.L.R. 2d 304, where the Court of Appeals said:
>
> > 'It is the settled law of this State (and probably every other State) that a party to an illegal contract cannot ask a court of law to help him carry out his illegal object, nor can such a person plead or prove in any court a case in which he, as a basis for his claim, must show forth his illegal purpose. . .'

It will be observed that the decision is again based as much on the application of the governing law, Italian law, under New York private international law as on Article VIII, Section 2(b). It is interesting that the Court refused to sever the last stage in the complicated dealings, the relationship between the plaintiff and the defendant in New York, from the steps leading up to it and the impact of Italian law and exchange control.

The judgment contains no comment on the interpretation of Article VIII, Section 2(b) apart from the Fund's authoritative interpretation of June 14, 1949. Thus, there is no discussion of such elements in the provision as exchange contracts or the currency involved. This is undoubtedly because, as in *White v. Roberts,* the arrangements taken as a whole provided for an exchange transaction and thus, on any view, constituted an exchange contract. Again, by any test that has been advanced, Italian currency was "involved" in this exchange contract.

The reference in the opinion of the Court to a letter dated August 8, 1957 from the Fund to the Secretary of the Treasury of the United States raises a novel point of law. It will be recalled that the final paragraph of the interpretation of June 14, 1949 stated that:

> The Fund will be pleased to lend its assistance in connection with any problem which may arise in relation to the foregoing interpretation or any other aspect of Article VIII, Section 2(b). In addition, the Fund is prepared to advise whether particular exchange control regulations are maintained or imposed consistently with the Fund Agreement.

The Fund is frequently requested to certify that specific exchange control regulations are maintained or imposed consistently with the Articles. In the New York case, this certificate was sent by the Fund to the U.S. Treasury, the fiscal agency of the United States under Article V, Section 1. The Treasury was able to certify that the Fund's certificate was in its records. Presumably, this would overcome any difficulty under the practice of the New York State courts that might attend the direct submission by a litigant of the Fund's certificate in evidence. Section 400 of the Civil Practice Act of New York provides that a copy of a record or other paper, remaining in a department of

the Government of the United States, is evidence when certified by the head, or acting chief officer, for the time being, of that department.

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The International Monetary Fund, 1955-1958: A Selected Bibliography

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THE SELECTED REFERENCES presented in this bibliography cover books, pamphlets, reports, and periodical articles which describe the functions, organization, and activities of the International Monetary Fund. Publications on the various aspects of international economics are included only when they contain material relating specifically to the Fund. This is a continuation of the bibliographies published in *Staff Papers,* Vol. I, No. 3 (April 1951), Vol. III, No 1 (April 1953), and Vol. IV, No. 3 (August 1955). A few publications issued before 1955, which were not included in the previous bibliographies, are also listed here. Although most of the Fund's official publications are included, this is not intended to be a complete bibliography of such publications.

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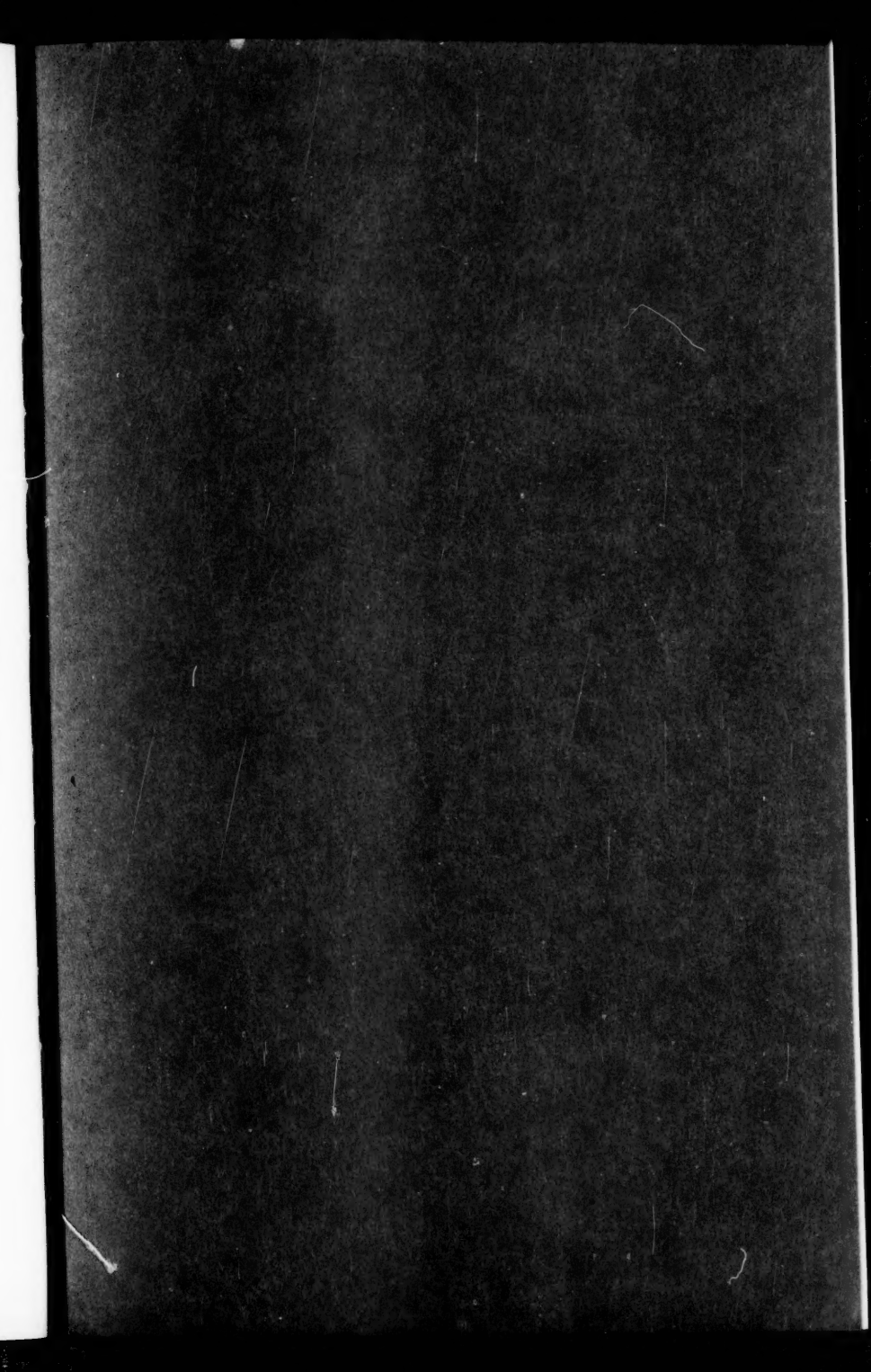

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